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MEDICINE

Resuscitation

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The treatment of asphyxia offers a challenge the medical profession, not only because of the troduction of new methods within recent years, t also because, for the most part, the initial eatment is instituted by the unskilled layman ho must look to the doctor for guidance. The edical practitioner must therefore assess the ethods of artificial respiration that can be safely ft in the hands of the layman, and must also be miliar with the modern devices and procedures at can be used on asphyxia victims.

Many methods of artificial respiration have en introduced, but most have been discarded as satisfactory. Of those that were in use until cently, the method of Silvester introduced in 58 and the method of Schafer[1], seem to be the ost effective. One of the disadvantages of the rmer method is that an assistant is required to ep the airway open by using traction on the ngue. The advantages of the prone pressure ethod were clearly stated by Schafer as follows: y reason of (1) its relative efficiency, (2) the se with which it is carried out, even by a single erator, (3) the absence of risk of injuring the er or fracturing the ribs, (4) the facilities af- rded for the escape of fluid from the mouth, and) the natural tendency of the tongue to fall rward. The prone pressure method is the one hich commends itself for general adoption in ost cases that require artificial respiration, and, ove all, in cases of drowning."

An entirely different approach to all previous ethods for the ventilation of the lungs was evised by Eve[2], the so-called "Rocking method" artificial respiration. Instead of regarding the horax as a concertina bellows he preferred to ink of it as a cylinder and piston, the thoracic alls being the cylinder and the diaphragm acting the piston. The unconscious patient is placed a pivoted rockable stretcher, "rocking up and wn rhythmically so that the weight of the viscera ushes the flaccid diaphragm up and down."

According to the investigation of Killick and ve[3] in healthy subjects the tidal air induced by cking "is at least as effective as any of the anual methods."

Although Eve[4] recognized the many advantages the Schafer method he warned that one "must ot think so much of the numerous successes of the Schafer method but rather of the distressingly greater number in which it fails, and try to diminish this." This disappointment with the older methods of artificial respiration was shared by Gibbens[5] of the Royal Navy who adopted the method of Eve for reviving nearly drowned seamen. Among the advantages of the rocking method listed by Gibbens were its (1) efficiency, (2) simplicity, (3) ease of keeping the victim warm, (4) free drainage of the respiratory tract and stomach, (5) its superiority in wound cases, (6) its freedom from risk to the ribs and liver, and finally that it was (7) less tiring to the operator than other methods. The method of Eve is almost fool-proof and requires little attention. But it should not be accepted without reservation. It is on trial in England and is being studied there and also in the United States with very encouraging results and the probabilities are that it will replace the older methods.

A more recent method of artificial respiration, to some extent based on a similar principle, has been introduced by Viswanathan[6] who describes the technique as follows: "If the patient is on a cot or on an operation table, lying on the back, the operator stands at the head end and places the palms of the hands on the lower part of the chest, the middle fingers being on the anterior axillary lines. The fingers are hooked round the lower costal margins on both sides. The pull is made in an upward and outward direction, thereby raising the anterior portions of the ribs as well as widening the lower costal arches. After a steady pull of 3 seconds, the pull is released and the chest is gently pressed upon in a downward and inward direction, while the extended fingers exercise the same pressure on the abdomen. Doing this about 12 to 15 times a minute brings about a respiratory exchange of over 7,000 ccm. of air."

"With the patient in the face-down position, the operator assumes the same position as before, but his hands are brought underneath the chest and the lower costal arches are pulled upwards and outwards."

According to measurements made with rebreathing bags of a Boyle's apparatus the ventilation of the lungs was twice as effective as Silvester's and more than three times as effective as Schafer's. A patient under moderately deep anaesthesia was used.

Mention should also be made of the "diaphragm method" of Captain Anderson[7] of Vancouver. In

this method "the operator lays patient on side with knees slightly flexed, then kneels at patient's back just below buttocks, places hand on abdomen directly over navel, with fingers pointing towards the head. The other hand is used to support the back, and is placed directly opposite the pressure point. Then, with steady inward and upward movement, apply pressure to abdominal region (expiration). Pause—then release quickly, keeping fingers in position (inspiration). Continue at a rate of 12 to 15 times per minute."

I have recently made a survey of the methods used by the rescue squads of the fire departments of the larger Canadian cities. The results are summarized in Table I.

Table I

City	Methods Used
1. Halifax	Fox model "K" series, E. and J. Resuscitator, Inhalator and Respirator.
2. Montreal	Schäfer, H. & H. Inhalator.
3. Toronto	Inhalator.
4. Winnipeg	Schäfer. H. & H. Inhalator, Resuscitator, Inhalator and Aspirator.
5. Edmonton	Schäfer, Silvester, Eve, Inhalator, Schäfer and Inhalator.
6. Vancouver	Schäfer, Captain Anderson's Diaphragm Method.

Comparisons of the results of the different methods or combination of methods used by fire department rescue squads across Canada were not possible because there was no uniformity in compiling records. A survey conducted by Ross[8] in the United States revealed that about 13 methods or combination of methods were used, the most popular being the Schäfer, the resuscitator, and the Schäfer and resuscitator.

The question of lung injury through the use of resuscitators has been partially answered by Schweriner and Ivy[9] who used the E. and J. Resuscitator on 102 dogs and failed to find any evidence of rupture, emphysema or bronchopneumonia that could be attributed to the "suck and blow" type of resuscitator.

Principles Involved

The mechanism involved in the different methods of artificial respiration is very complex. The Silvester method depends on an increase in the antero-posterior and lateral diameters of the thorax, but as Schafer pointed out the limp muscles of the half-dead subject have very little effect in pulling the ribs upwards.

The Schäfer method depends on an increase in all diameters of the thorax. After an initial pressure "the elasticity of the chest and abdomen cause these to resume their original dimensions and air passes in through the trachea."

The defect inherent in the Schäfer meth that the chest is never inflated. It is only de and then returns to normal. It is because o failures with the older methods that the m of Eve which is based on an entirely diff mechanism should receive wider recognition introduction focuses attention afresh upon significance of the diaphragm in the respir mechanism. The ventilation of the lungs is pendent on the movements of the chest wall excursions of the diaphragm. The excursio the diaphragm account for the vertical inc in thoracic capacity and the whole concept of method depends on this. As a result of the d ward excursion of the diaphragm the lung pand and air is drawn into the lungs; conve when the diaphragm is thrust upwards in the down position by **the pressure** of the abdo viscera the lungs contract and air is exp Other factors that influence the diaphrag excursions are the natural elasticity of the l the tension of the abdominal muscles and tone of the muscle fibres of the diaphragm their role in the asphyxiated person is pro very slight.

To evaluate the efficiency of the Eve m of artificial respiration as gauged by the phragmatic excursions I had three X-ray pic taken of a subject on a stretcher in the feet d horizontal and head down position; the subject a male, 35 years of age, weighing 110 pounds

The results were as follows, ex resse centimeters from a base line through the border of the second lumbar verteb a t summit of the diaphragmatic dome in each

TABLE II

	Feet down	Horizontal	Head
Right side of diaphragm	6.5 cm.	11.8 cm.	12.
Left side of diaphragm	3.5 cm.	8.8 cm.	9.

The excursion of the diaphragm wa 6 c each side. According to Best and Tay lor range of movement of the diaphragm in respiration is 1.2 cm., and Barclay[11] fou nd t normal students the range of movemen in respiration is 9 cm.

There are indications that there is ade pulmonary ventilation with the metho d although this alone does not prove its adva over other methods, an observation that was by Cordier[12] who stated that "there are c practical advantages in Eve's metho d, b physiological superiority remains to be prov

The efficacy of the Schäfer prone pr method of producing artificial respiration questioned by Comrie and Dripps[13] after a parison with Eve's method using intratr

insufflation with oxygen. The latter method, according to these experiments, was 3 to 4 times as effective as the former. In fact they state that the Schäfer method failed almost completely to ventilate these patients."

The experiments of Hemingway[14] indicate that the rate of oxygen uptake and cardiac output are greater with the rocking method than with the Schäfer method.

Practical Directions Concerning the Rocking Method

At my suggestion the Winnipeg Police Force have had a portable trestle made and have also fastened brackets on a collapsible stretcher. This apparatus can be placed in a cruiser car, and rushed to the scene of an accident and operated by one man. (Fig. 1).

The following directions were issued by the Sergeant to the rescue squad:

"The method requires only a stretcher pivoted on a trestle (Fig. 1) or some similar support, such as a saw horse, and the description given below explains why it is effective:

(a) Lay the patient face downward on a stretcher, ladder, board, or other improvised appliance, with the head turned to one side and the arms stretched above the head.

(b) Secure the patient with two broad bandages placed one above and one below the buttocks and tied to the sides of the stretcher to prevent the patient from sliding up and down with the rocking movement. **No Bandage Around the Chest.**

(c) The middle of the stretcher is placed across a trestle, box or low fence, so that it may pivot easily up and down.

(d) Artificial respiration is induced by rocking rhythmically so that the weight of the viscera or intestines pushes the diaphragm up and down in the same manner as when the patient breathes voluntarily.

The full excursion of either end of the see-saw should not exceed 45 degrees and the rate should be about 12 times per minute—the head lowered for two seconds inducing expiration, and raised for three seconds, inducing inspiration.

This method has four distinct advantages:

It does not interfere with fractured ribs or other injuries of the chest.

Treatment for shock can be started immediately while the patient is being revived.

If the foregoing simple directions are followed, this method may be applied by anyone without previous experience; and the treatment may be given without tiring the operator and for much longer periods than possible with other methods of inducing respiration.

It is recommended, however, that the Schäfer method be commenced immediately and maintained until the see-saw method takes over without loss of rhythm."

Regardless of the method used, artificial respiration must be started immediately. In a series of cases of asphyxia due to electric shock Bates et al[15] found that 90% survived when it was started within one minute and only 6% where there was a delay of 6 minutes. They also reported several cases of drowning where resuscitation was successful after the victim had been submerged for more than half an hour. Ross[16] analyzed a series of 1,633 cases of asphyxia where none survived "in which more than 15 minutes elapsed between the cessation of breathing and the start of artificial respiration." Ten different methods of artificial respiration were used and of the 227 victims resuscitated 58 were revived by the Schäfer method. The Eve method was not used.

The question of how long to continue efforts of artificial respiration in cases of asphyxia had been emphasized by Bates [15, 17, 18]. He quotes a case of electric shock in which there was no sign of life until artificial respiration had been continued for 8 hours. He considers that "the only really safe plan is to continue efforts until rigor mortis sets in."

Gas Therapy Combined with Manual Methods

The use of gas mixtures combined with manual methods of artificial respiration are more effective than artificial respiration alone. Lougheed et al[19] found that a low concentration of CO_2 was effective. They used a gas mixture called carbogen (52 CO_2, 95% O_2).

Lack of oxygen in asphyxia cases may cause extensive tissue damage. The value of oxygen therapy was demonstrated on animals by Thompson and Birnbaum[20], who revived 95% of them with combined oxygen and manual methods but only 55% using manual methods alone. This was

supported by Leigh and Richardson[21] who emphasized the value of oxygen therapy in cases of damaging anoxia.

Another method described by Waters[22] is the use of oxygen from a cylinder fitted with a rubber bag and mask, the lungs being inflated rhythmically by manual compression on the body.

Obstruction of the Air Passages

Unless the air passages permit an adequate pulmonary gaseous exchange artificial respiration will be futile. In studies made by Banting[23] and his associates on experimental drowning on dogs it was found that there were two kinds of drowning; one in which water entered the lungs and one in which little, if any, entered the lungs, because of laryngeal spasm closing the glottis and producing obstructive asphyxia. Experimental studies to demonstrate this reflex laryngeal spasm were carried out by Lougheed[19] and his associates on dogs. It was demonstrated that when water entered the pharynx and larynx there was immediate reflex closure of the glottis. Swallowing and vomiting occurred. In some of the animals there was a relaxation of the glottis while in others "the animal may simply hold its breath and die of asphyxiation." To allow air to enter the lungs they introduced a semi-rigid catheter (Porges) through the closed glottis.

Aside from reflex closure of the glottis mechanical obstruction of respiration can be caused by foreign matter in the air passages, such as ashes, coal, sawdust, sand and food. Where these cannot be immediately cleared out an intubation may be necessary, and according to Flagg[24] this is best done by direct vision using the laryngoscope. Some cases may require an emergency tracheotomy and according to Flagg the method devised by Jackson[25] is quick, safe and efficient.

Summary

1. Physicians are in a position to lessen the number of preventable asphyxial deaths by a campaign of education and training of laymen through suitable local bodies.

2. Adequate uniform records should be instituted across Canada in all asphyxia cases, so that comparison and study of these cases treated by rescue squads could be carried out. This applies particularly to fire departments and lifeguards.

3. No rigid formula can be adopted for the treatment of asphyxia because each case presents its own problems due to the variety of causes and other circumstances associated with it.

4. It cannot be too strongly emphasized that the airway must be clear, first from foreign particles, and second from laryngeal spasm. Some cases may require endotracheal intubation, a procedure which should be used only by the expert.

5. The consensus of opinion is that the Schäf method of artificial respiration should be start immediately by the first person available.

6. As soon as is feasible the patient should transferred to a stretcher and the Eve meth instituted.

7. Since the use of gases therapeutically e ployed in resuscitation, is without question ve effective, well trained rescue squads, equipp with a resuscitator, should be rushed to the victi

8. Where hospitals are situated in the vicini the victim should be transported and placed the hands of the man most competent to de with these cases; namely the anaesthetist.

9. Since the ordinary signs of life are unreliabl efforts at resuscitation should be continued un the patient starts to breathe, or until rigor mort sets in. The physician should not order artifici respiration discontinued until every means at h disposal has been exhausted.

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Physiology of Fluid Interchange

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Since Claude Bernard first postulated his concept of the milieu Interieur, and its constancy, physico-chemical research has shown that his postulate was well founded and that each cell of the body still lives in an aquatic environment not dissimilar to that in which, presumably, all life arose. Much research has been and is being directed to a study of the factors which control the movement and composition of this fluid in the body. In its broadest scope, a discussion such as this, would lead us into each and every phase of physiology, since no physiological or biochemical process is possible in the body in the absence of that greatest of all solvents—water. Such a discussion is, of course, impossible in this place and I shall restrict myself to a superficial consideration of the more basic concepts involved in **Normal** Physiology of Fluid Interchange and those which, if we have a working knowledge of them, will enable us better to understand the rationale of various types of fluid therapy.

Many of these concepts may be presented rather dogmatically, for purposes of clarity and brevity—but this is not to say that these are completely proven; especially since recent studies tend to show that even our most basic concepts may require change or at least modification.

Accepting the relatively meagre but reasonably conclusive evidence available, we may start with the premise that about 70% of the body weight is water—and that this water is of two sorts:

(1) The Intra-cellular water—(50% body weight).
(2) The Extra-cellular water—(20% body weight).
—further split into

(a) Interstitial water (15%).

(b) Vascular water (5%), i.e.: the Blood Plasma. Part of the interstitial component is, of course, lymph—the function, and mode of production of which, especially in regard to its composition, is not well understood and will be disregarded in this discussion. If one cares for mathematics one can calculate from the above figures that the content of water in the average adult is about 50 litres.

Water Intake and Output

The body obtains its water from two main sources.

(a) Water of oxidation—from the food or (and) body stores. This is water released during biochemical reactions in the body, the sum total of which are referred to as Metabolism. The oxidation of 100 gms. of Fat, Carbohydrate, and Protein yield respectively 107, 55 and 41 gms. of water. Expressed more concisely and all inclusively, the average adult on an average diet receives about 300 c.c. water daily in this way.

(b) Water Content of food and drink. The amount taken in this way is controlled by personal habit and by thirst—a physiological phenomenon under the control of many physical and chemical factors which are not germaine to this discussion. An average figure for drinking water intake in an average adult on average diet and doing average work in a temperate climate is 800 c.c. (Best and Taylor).

Water Output: Body loss of water occurs through the skin, respiratory tract, urine and faeces. The amounts through these various channels vary considerably with such factors as environmental temperature, body temperature, physical activity, gastro-intestinal function, etc., but figures for our hypothetical average adult under the hypoothetical average conditions are:

Skin	500 c.c.	And these figures may vary as much as 2,000% in an upward direction.
Resp.	350 c.c.	
Urine	1500 c.c.	
Faeces	150 c.c.	

As noted the factors governing water intake and output are extremely diverse and have been subject of intensive study—another phase of our subject which we shall not discuss. For our purposes suffice it to say that all too frequently our entire attention is concentrated on urinary output, and the possibly large losses of fluid from the other sources is lost sight of—an error of which we need only be aware to prevent its occurrence. It might be enlightening to show the possibilities in this regard. (See Fig No. 1 from Abbott, and Chart No 1 from Gamble). We may now pass on

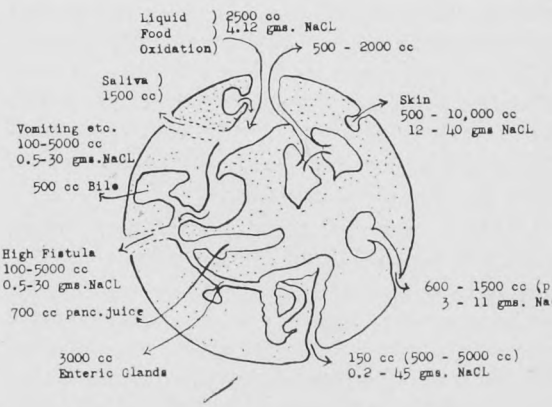

Fig. 1.

to a consideration of the various factors operative in the control of movements of body water.

From a paper given at monthly clinic meeting, Deer Lodge Hospital, Winnipeg, Man.

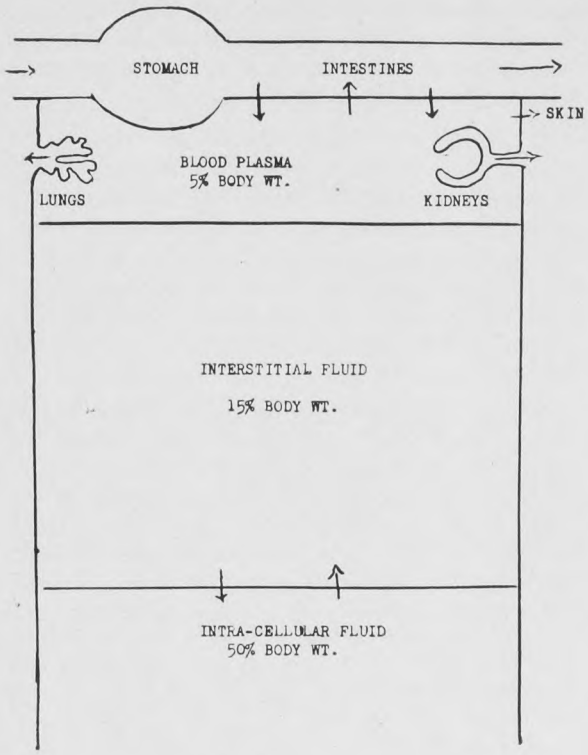

CHART 1.

I Hydrostatic Pressure: Since this factor exerts its main effect within the vascular tree we will restrict our discussion to this aspect. As Starling first suggested, and Landis has apparently proven, it is this vascular hydrostatic pressure which is, along with the osmotic pressure of the plasma proteins, the controlling factor in the transfer of water and solutes across the capillary membrane; out at the arterial end and in at the venous end according to current concepts. This idea has stood the test of time and is familiar to all of us so that no more need be said, although recently the validity of the concept has been challenged by McMaster and Rous.

II Osmotic Pressure: Consideration of this factor must be subdivided into:

(a) Fluid transfer across multicellular membranes, e.g. the blood capillary.

(b) Fluid transfer across unicellular membranes, e.g. the R.B.C. and tissue cells.

(a) Across multicellular membranes. Under this heading we might discuss fluid transfer across the mucous membrane of the gastro-intestinal tract, the renal glomerulus and tubules, serous membranes, etc., as well as the blood capillary. From a practical point of view fluid transfer across the gastro-intestinal tract is important, especially with regard to fluid and electrolyte loss by this route—a condition well known to those who have done gastro-intestinal surgery or who h had to deal with diarrhoeic diseases.

With regard to the kidneys, it is not wi the scope of this discussion to enter into the de of renal excretion or secretion and this as will be, in the main, disregarded.

With regard to serous membranes, we s only remark that present evidence (incompl indicates that pleural, peritoneal, etc., fluids purely ultra-filtrates of plasma, whereas cerebro spinal fluid and the humors of the are more than simple ultrafiltrates—poss due to special osmotic properties of the m branes concerned.

We shall then restrict ourselves to a brief cussion of the osmotic pressure facto in f transfer across the blood capillary. In this nection the size of the intercellular inters seems to be of importance in preventing passage of colloidal molecules and allowing pass of non-colloidal molecules. Thus the blood p teins, and especially albumin, since they can pass the membrane, create a differenti l osm pressure between the intravascular and inters portions of the extracellular fluid, and his te to hold fluid within the vascular co partm except where overcome by hydrostatic press Thus, the well-known relation of low pl sma p teins to oedema. But, as Peters has pointed there is no true critical level of plasm prote at which fluid leaves the vascular co partm rather, other factors being normal, a y fall blood protein will be associated with increa interstitial fluid and the concept of a cr ical l has arisen only because such increase m y bec recognizable oedema at that level. Su h a cept is unsound because it depends on "o factors being normal" and does not take account vascular hydrostatic pressure or sod content of the extracellular fluid to me tion two of these factors.

(b) Across Uni-cellular membranes. Most the work on this phase of the subject has b done on the transfer of fluids, across the R membrane—primarily because of its acc ssibil for study. However, what relatively little w has been done with other tissues (mainly mus tends to confirm the idea that the R.B.C. can taken as the cell type and that knowledge deri from studies on it, can be applied in general other tissue cells. In order to gain any underst ing of osmotic factors in control of fluid mo ment across unicellular membranes, it is necessa briefly, to consider the composition of the ex and intra-cellular fluid, in regard particularly electrolytes which differ considerably as sho in Chart No. 2 from Gamble, where the concent tions are expressed as milli-equivalents per litr

i.e. mgs. per litre x Valency / divided by atomic weight. This gives figures which are chemically equivalent and can be directly compared from an acid-base and osmotic pressure point of view. Note particularly the high K+ and HPO_4— and low Na+ and Cl— in the cell fluid and the reverse in the extracellular fluid, and the relatively negligible osmotic contribution of protein in the extracellular fluid. Of interest also is the close parallel between present day sea water and extracellular fluid. It is obvious that the intra- and extracellular fluids must be in osmotic equilibrium, in spite of their chemical differences, else fluid movement would cause cellular hydration or dehydration. From experimental work available we may make the following generalizations, modified from Peters monograph on Body Water—

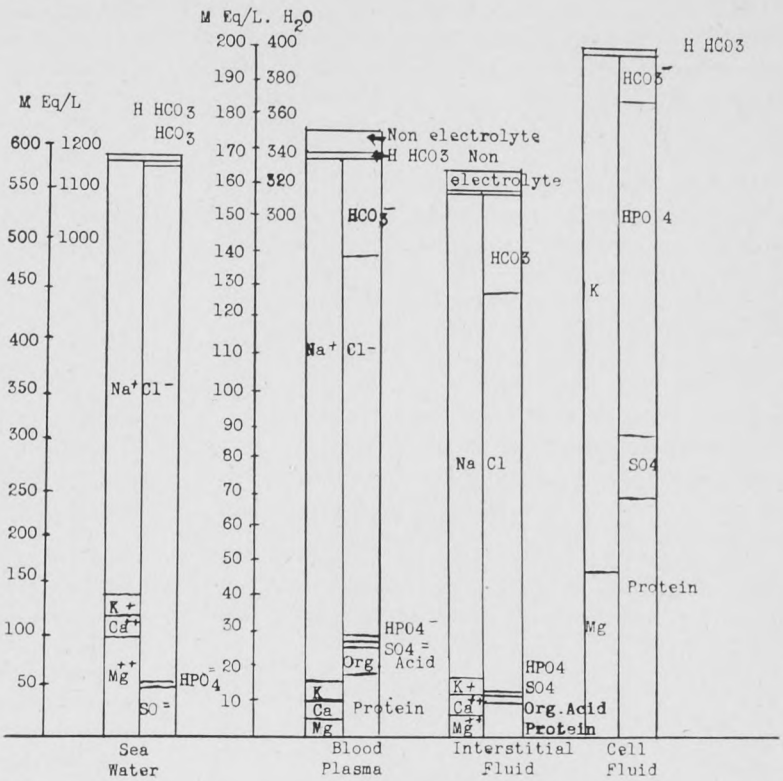

CHART II

(1) Extra- and intra-cellular fluids are in osmotic equilibrium.

(2) Cell membranes are unconditionally permeable to water and easily diffusible solutes such as urea.

(3) They are also permeable (possibly conditionally) to Cl— and HCO_3— and within limits, to HPO — and SO_4 =.

(4) They are impermeable to bases.

These generalizations show that the basic cations Na+ and K+ are of prime importance in controlling fluid movement across cell membranes and the considerable body of evidence which has been adduced by various investigators has led to a general acceptance of this concept of cell membrane impermeability to cations as the main controlling factor.

Study of the anions has possibly been less detailed but at least in regard to Cl— and HCO_3—, is of less importance since, as we shall see later, change in one of these may be accompanied by a reciprocal (opposite) counterbalancing change in the other. The role of HPO — has not been clearly defined. To further confuse the picture, recent evidence, particularly by Darrow, who studied infantile diarrhoeas, tends to show that under certain metabolic conditions of the cells K+ may pass the cell membrane. Whether Na+ does so or not and under what circumstances, is not clearly shown. Further, Butler has recently suggested that HPO — may behave in a similar fashion to K+, but there is no good evidence as yet for this. Darrow has made practical application of his work by treating infantile diarrhoeas with a solution which contains some K+ and claims better results. Final confirmation is needed.

As a working principle, however, we may consider the extracellular Na+ concentration as the main controlling factor in fluid interchange across the cell membrane; i.e. a raise of extracellular Na+ concentration will cause cellular dehydration, while diminished concentration will cause cellular hydration due to fluid movement across cell membrane to restore osmotic equilibrium. Such fluid movement is the body's first or emergency method of control of its cellular environment. Subsequent control is by means of the lungs and kidneys, as we shall see. It is interesting to note here the possibility, by the indiscriminate use of parenteral saline therapy, of so raising the extracellular Na+ concentration that cellular dehydration is produced in the presence of an actual increase in total body water. This is, of course, unlikely in the presence of normal renal function, since the kidney will excrete Na+ and water in appropriate amounts (up to a limit of twice the blood concentration of Na+) to maintain (1) normal osmotic relations, and (2) normal body fluid.

Now that we are relatively clear about the predominant role of the extracellular electrolyte in the control of body water, it may be well to offer a warning about rigidity of views on the subject by quoting, in part, from a recent review by Darrow:

"Like other constituents of the body, water is in a dynamic state in which all body water is being constantly exchanged. In a sense there is no intracellular or extracellular water, for water in a particular phase is being constantly shifted and the amount in a particular phase is controlled by many factors. Among these is the distribution of Na+ and K+ and these ions are also in a dynamic state in which no part of the body is inaccessible to them."

III Lungs: The function of the lungs in so far as we are concerned at present is directed toward maintaining the total anion concentration of the extracellular fluid at a level equivalent to the total available base. This is accomplished by control of the HCO_3— level in the blood plasma. A few examples will illustrate.

(a) Acidosis—from an increase in anion content as in diabetic acidosis, or acid ingestion. The increase is compensated by a decrease in HCO_3— due to increased blowing off of CO_2.

(b) Acidosis—from loss of cation as in the acidosis of chronic nephritis or dehydration; where the base may be lost without a corresponding loss of anion, compensation occurs as in (a).

(c) Similarly, Alkalosis from Cl— loss is accompanied by retention of HCO_3— due to less excretion of CO_2 by the lungs. Admittedly, the lungs, as shown above, act mainly to preserve the ph—but if such action were not present, only the renal mechanism for ph control would remain; viz. increased or decreased Na+ excretion and this would involve marked shifts of water. Thus, indirectly the lungs exert a definite control over fluid interchange and this entirely apart from their role as a source of water loss.

While briefly touching on acidosis and alkalosis may I offer a word of warning concerning the fallacy of drawing conclusions as to any tendency to either of these states from a measure of the CO_2 combining power alone, since these disturbances, if they result from pulmonary conditions, yield CO_2 combining powers directly opposite to what is usual in acidosis or alkalosis; e.g. acidosis from respiratory obstruction, emphysema, etc., is due to CO_2 retention and yields a high estimation for CO_2 combining power.

IV Kidneys: The functions of these prime regulators of homeostasis will not be discussed in any detail as the broad aspect of their actions are well known although the more detailed physico-chemical methods of these actions, which are probably within the realm of this discussion, are still not completely educidated, and will not be mentioned. Homer Smith's lectures are a good introduction to this subject. In general, in so far as we are at present concerned, the renal functions may be listed as follows:

(a) Preservation of normal cell hydration, normal osmotic equilibrium between the cellular and intracellular phases of water, and normal total body water, and these are mainly controlled by the control of extracellular water and electrolyte due to the ability of kidney to excrete dilute or concentrated urine with a low or high Na+ and Cl— content. There are, of course, limits to this renal variability, and if much excess of electrolyte must be excreted, water must be carried with it since the concentrating ability limit re. Na+ is a urine Na+ = 2 x blood concentration. Likewise, by means of its ability to conserve Na+ (since such loss of Na+ can only be compensated osmotically by Na+ ingestion with water and anion loss) by excretion of acid sodium phosphate (NaH_2PO_4) or NH_3 salts the kidney can excrete more anions than fixed base, and so rid the body of acid metabolites while maintaining body's base and water.

An example may clarify this somewhat. With Na+ loss and excess fluid intake as may occur with profuse sweating and free H_2O drinking there is a loss of extra-cellular Na+ and thus a lowered osmotic pressure, so that fluid shifts into the cells. The renal attempt to compensate is to excrete a dilute urine almost Na+ free. This is the condition, which, when far advanced becomes water intoxication, the biochemical lesion being excess cellular hydration.

(b) Preservation of a normal acid base balance primarily, again, via control of body base. Briefly conditions which tend to acidosis, such as

(I) Those producing increase of anion, as diabetes and acid ingestion, or

(II) Those producing loss of base (with or without increase in anion), such as chronic nephritis or dehydration.

Lead to first a reduction in HCO_3— (lack of control and later to a renal loss of base. This, at first glance, one might expect would cause a reduction of extracellular osmotic pressure but renal base excretion is accompanied by water excretion in an attempt to maintain normal osmotic relations, and a total loss of body water results. In a similar way conditions tending to produce alkalosis initiate a similar series of compensatory mechanisms involving water shift.

V Endocrine Factors: These factors exert their control over fluid movement via their effect on fluid electrolyte and on the renal function, the physico-chemical mechanism of their action being

none too clear for the most part. We must discuss the pituitary and the adrenal cortex.

(a) Pituitary Gland. The effect of pituitrin in increasing renal tubular re-absorption and so giving rise to water retention is well known, and equally well known is the fact that removal of the posterior pituitary or severance of its connections with the anterior hypothalamic muclei leads to diabetes insipidus. It may not be so well-known, however, that removal of the total pituitary gland does not result in this water loss. Thus, in an hypophysectomized animal diabetes insipidus results only if anterior pituitary extracts are given, or, curiously enough, if thyroid extract is given, and in animals diabetes insipidus has been relieved by thyroidectomy. Does the anterior pituitary exert its effective via its thyrotopic hormone? These considerations have, as yet, little practical import.

(b) Adrenal Cortex. It is well known (but not well understood) that certain fractions of adrenal cortical hormones exert a marked effect on fluid and electrolyte balance. For example, lack of this hormone causes marked Na+ loss, K+ retention, and dehydration and the reverse may occur with excess amounts of the hormone, and thus one danger of non-specific use of this substance.

Detailed studies of fluid and electrolyte change in disturbances of adrenal cortex have been made, but as yet, although they are of great theoretical interest, they are of practical importance only in adrenal cortical disease.

In Summary then, I have attempted to outline the dynamic distribution of fluid in the body and the main factors, dynamic in themselves, which control that distribution. I have not attempted to deal with the subject of body water but rather to stress those physiological and biochemical points, proven or hypothetical, which might act as a peg, albeit a rather loose peg, on which to hang our therapeutic hats. In considering parenteral fluid therapy then, we must first consider:

(a) Volume of fluid lost by the patient and from what phase mainly, and the effects of this loss on the various phases.

(b) The electrolyte loss of the patient and its type.

(c) The rise or fall of plasma protein concentration, as an indication of the intravascular fluid state, and having, either biochemically or clinically, assessed these we must give parenteral fluid in accordance with our assessment, and at the same time thank God that a normal pair of kidneys will often compensate for our poor assessment.

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Obesity and Its Treatment

A. Keenberg, M.D.

Obesity is a serious condition which leads to dangerous diseases and shortens life. Insurance figures reveal an increase in mortality rate directly proportional to the increase in weight. The incidence of Diabetes, Hypertension, Coronary Thrombosis and Nephritis is much higher among the obese. Orthopedic lesions are common accompaniments of overweight. The risks of surgery are greater in fat people. Obesity is disfiguring. For these reasons overweight is not a jesting matter but a very serious problem.

What are the causes of obesity? ?The answer is —too many calories. This is the complete answer in that form of obesity called "exogenous" and the partial answer in the form called "endogenous." In the latter there is a large endocrine factor also. The glands concerned are the thyroid, pituitary, gonads, and pancreas. It must be stressed that there are great differences between true obesity and the overweight present in the endocrinopathies.

Hypothyroidism is characterised by dry skin, thin hair, sluggishness, sensitiveness to cold and other symptoms not found in the obese. The overweight is largely due to water retention. The Basal Metabolic Rate is typically low. In obesity, according to Greenhill, when it is computed on the ideal weight the Basal Metabolic Rate is high.

Hypopituitarism is diagnosed oftener than it occurs. The association with hypogonadism in fat children is often called "Frolich's Syndrome" yet almost always these children develop into normal adults.

Hypogonadism occurs normally at the menopause and is not invariably associated with overweight. When it is, the factors responsible include heredity and lessened physical activity. Gurney has proved that castration is followed by obesity chiefly or only in those who had a hereditary tendency to become fat.

It would appear that there is excellent authority for the statement that endocrine dysfunction is a very rare cause of overweight and that, alone, it does not cause obesity. Overweight may be influenced by endocrine disorders but true obesity is due to overeating. Endocrine preparations have therefore little value in treatment.

The present day concept of the cause of obesity is that it is psychogenic. Eating gives relief to emotionally unstable people, and develops into a habit which they cannot break easily. Newburgh gives the following reasons why people overeat.

(1) Overemphasis by the parents on the importance of food in a child's upbringing.

(2) Gratification obtained from flavors of food.

(3) The feeling of repose and comfort produced by a full stomach.

(4) Temporary respite from anguish caused by intellectual social or sexual failure.

(5) The food habits which are carried over into middle age.

In our aim to reduce the patient's weight and increase his efficiency we must teach new eating habits. If one does not impress this on them, they will quickly regain their weight and all our efforts will be in vain.

A drug which will help to depress his appetite is a powerful weapon in addition to your psychotherapy. I have found Dexedrine Sulphate the most useful and reliable. As you are all aware the original drug was Benzedrine Sulphate. It is a mixture composed of two optically active isomers: (1) Dextro rotary; (2) Laevulo rotary.

The laevulo rotary was found to produce certain undesirable side effects, e.g., palpitation, headache, insomnia, anxiety and sometimes raises the blood pressure.

The dextro rotary or dexedrine sulphate does not produce these effects. In fact, I have noticed that some patients who have an increased blood pressure before treatment, will have a fall, rather than a rise, with dexedrine, and this must be due to the weight loss.

Dexedrine Sulphate

Dexedrine sulphate is particularly valuable in obesity for the following reasons (Pellner), (a) It slows digestion. Dexedrine delays peristalsis. (b) It changes the mood. An obese person often overeats because of sensory satisfaction. The increased mental activity will thus distract the patient from an overwhelming desire to nibble at food. (c) It affects water retention. Rosenthal has suggested that Dexedrine produces loss in weight due to inhibition of water retention.

Treatment

1. Dexedrine

In treating obesity, I have found that Dexedrine is the most important factor in the treatment. One may prescribe 2.5 mgms. t.i.d. one before meals. As much as 25 mgms. has given in twenty-four hours but such an amount seldom necessary. One will note in each patient there is a certain time of the day when the desire to eat is accentuated. At that time one may give a larger dose of Dexedrine. Addiction to the drug seldom if ever occurs.

2. Diuretics

In some very obese patients I have found it necessary to give diuretics for a short period. These patients did not respond to restricted fluid and low calorie diets alone. I obtained the best results from aminophyllin grs. 3 t.i.d. for five seven days. In females, in the pre-menstrual period where there is often water retention, two cc. of salyrgyn intra-muscularly, not oftener than once a month, is given.

3. Restricted Fluids

Fluids must be restricted to one quart in twenty-four hours. This will include beverages such as fruit juices, milk, tea, coffee, beer, etc. Upon taking a history you will nearly always find that the obese patient drinks a great amount of fluid. Therefore the restriction of fluids to one quart daily must be impressed upon the patient.

4. Diet

The diet should be low in calories—1,000 calories, but adequate in all other respects. The foods prescribed should be easily procurable, otherwise the patient will resort to substitutes and often err in caloric evaluation. The diet should be attractive, varied and bulky enough to satisfy hunger pangs. Fat should be cut to a minimum as it is the most concentrated food and of greatest caloric value. However, too severe a reduction in caloric intake often makes the patient weak and irritable, and discourages him from continuing treatment. Alcoholic beverages must be especially restricted because of their high caloric value. Salt should be restricted because it favors water retention. This has been proven in Cardiac Oedema, where by restricting the salt intake it has been found unnecessary to restrict the fluid intake.

5. Thyroid

Thyroid is indicated only when the Basal Metabolic Rate is below normal. The patient with a B.M.R. rate of —5-20 requires dexedrine in conjunction with thyroid for good results.

6. Exercise

Exercise under trained direction is valuable but only in conjunction with the other forms

treatment. Loss of weight through exercise may soon be regained if it is followed by a hearty meal and a long thirst quenching drink.

7. Psychotherapy

This is an important part of treatment. The doctor must discover why the patient overeats. Then he must try to correct the cause. Most patients who seek advice are women who worry about their appearance. Advantage should be taken of their vanity to make them eat for the benefit of their health. By explanation and encouragement their eating habits can be changed. Then their weight will stay normal.

Conclusions

(1) Obesity is dangerous and is nearly always due to over eating.
(2) Endocrinopathies are a very rare cause.
(3) Over eating is often psychogenic in origin.
(4) Certain drugs, especially dexedrine, are useful to help the patient.
(5) Psychotherapy is important.

Results of Treatment of 90 Patients

The figures below are average figures for each group:

No. of Patients	Weight	Weight Loss in 6 Months
4	250 - 278	51
11	224 - 250	40
21	200 - 224	24
16	175 - 199	23
29	150 - 174	19
9	140 - 149	13

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PAEDIATRICS

The Waterhouse-Friderichsen Syndrome

A Case Report

Edith K. Peterkin

This condition, known variously as Acute Adrenal Insufficiency, Purpura Fulminans, or Adrenal Haemorrhage, is somewhat of a rarity, a summary in 1943 showing only 125 cases in the literature—for the most part in foreign journals.

First described in 1894 by Voelcker, more detailed accounts by Waterhouse and Friderichsen working independently, have since associated the names of the latter with this syndrome. It consists essentially of a fulminating septicemia with the sudden onset of purpura, shock and cyanosis, usually progressing very rapidly to terminate by death in from 4-24 hours. The outstanding finding at post mortem is bilateral adrenal haemorrhage and for this reason it has been regarded as an acute adrenal cortical insufficiency.

This syndrome may occur at any age; one case is described in a 20-day-old infant, another in a male, age 74 years. However, 90% occur under 9 years, 70% under 2 years. This is in marked contrast to Addison's Disease—or chronic Adrenal Insufficiency of which only 100 cases are on record in patients under 15 years. Symptoms of Acute Insufficiency may follow any type of infection—pneumococcal, streptococcal, diphtheritis, one case is reported following food poisoning, but nearly all are meningococcal.

Meningococcal infection in the human may take one of three forms: 1. It may be confined to the nasopharynx as in carriers. 2. It may involve the meninges, causing a purulent meningitis: or 3. It may take the form of a meningococcemia—in which case there may be no neurological findings. It is this latter non-meningitic form, which, ever a wartime hazard, occurring epidemically and sporadically, often difficult to diagnose, is to be associated with the Waterhouse-Friderichsen Syndrome. In two series, totalling 100 cases of meningococcal infection occurring in the American army, admission diagnosis ranged from nasopharyngitis, undulant fever, rheumatic fever, to schizophrenia.

In the acute cases, headache, chills, myalgia and arthralgia were usual. A rash was present in all. Only one patient developed the Waterhouse-Syndrome. In some meningococcal epidemics, 50% of cases with bacteremia had purpuric manifestations. Shwartzmann, in 1928, demonstrated a necropurpurogenic factor present in some strains of meningococci but not in others. This will account for the variability in epidemic manifestations from year to year.

In a typical case the child has been in good health, suddenly wakes up crying or begins to complain of headache or general malaise. Vomiting or diarrhea may develop. The temperature may be as high as 105°-108°, but in some has been less than 100°. Within two to three hours the blood pressure begins to fall, the patient suddenly be-

comes cold and clammy despite estreme pyrexia; cyanosis becomes very marked and quite suddenly —in a matter of seconds, petechiae and large blotchy ecchymoses appear over the extremities, face, trunk, as well as in the mouth. These do not fade on pressure. There is evidence of extreme circulatory collapse, the pulse is rapid and thready, breathing is shallow; the patient may have chills—some have had convulsions; the abdomen may become very rigid, in some has been distended, and in a few, the adrenals have been palpable. Death is sudden.

At post-mortem the adrenals are swollen and haemorrhagic and there is evidence of necrosis. The microscopic picture is completely disorganized, with most extensive involvement of the zona fasciculata; the adrenal capsule with a narrow margin of subjacent zona glomerulosa are often intact. The medulla likewise, may be intact. Generalized lymphoid hyperplasia and petechiae in various organs may be present. Various theories to explain the adrenal involvement have been offered.

Necrosis of the adrenals is a well recognized entity occurring in various infectious diseases apart from meningococcemia. It is noted in association with Eclampsia, and with severe burns; and in the newborn, massive haemorrhage may complicate the normal process of degeneration of the fetal cortex, or it may be the sequel to injury to the adrenals, usually as a result of breech delivery. Experimentally induced shock, nutritional deficiency states, bacterial filtrates and a variety of drugs have also been found capable of producing destruction of the adrenals.

Many theories have been propounded to explain the sudden death in cases of the Waterhouse-Friderichsen Syndrome. It has been attributed to sudden loss of the adrenal cortical hormone as a result of haemorrhagic necrosis. Adrenalectomized dogs and rats on the other hand, die slowly over a period of days. Some have suggested that the adrenal cortical destruction in meningococcemia is "Just another haemorrhage in a haemorrhagic disease and without significant effect on its further cause."

Of all organs the adrenals are the most vascular. It would not seem surprising therefore, that in any bacteremia they should be a vulnerable site to bacteria or toxins conveyed in the blood stream. Impairment of the circulation will serve to intensify such effects. So it has been postulated that "The overwhelming septicemia produces extreme shock which, if untreated becomes irreversible, adding to the effect of capillary damage and purpuric manifestations which only coincidentally involve the adrenals." It is probable that the extent of adrenal involvement is very variable, which fact would justify reports of a of this syndrome. Those who feel that accu diagnosis will always rest in the hands of pathologist, reject such cures, deeming these be merely successfully treated petechial me gococcemia. What has been considered to adrenal necrosis—based on clinical findings, actually represent only an impairment of adr function.

In those series in which recovery has been ported, diagnosis was based on the presence septicemia, cyanosis, purpura and shock, toge with the laboratory findings. In a series of cases occurring in adults, there were 12 recove —6 of meningococcal origin.

Certain laboratory tests will prove useful.

1. Hematocrit estimation—There is hemoc centration.

2. White cell count—very variable, rang from leukopenia to over 80,000.

3. Blood Sugar: Usually a hypoglycemia.

4. Blood Potassium—elevated.

5. Blood Sodium and chloride—depressed.

6. CO_2 combining power—decreased.

7. Blood culture—usually positive.

8. Smears from petechiae have been repor 80% positive in some series.

9. Spinal fluid: may be negative and signs meningeal irritation are uncommon.

The treatment is worthy of considerat Where adrenal involvement is suspected, should not await confirmatory evidence from laboratory before instituting treatment: delay creases the hazards.

a. Most important is the administration chemotherapy—Sodium sulfadiazine intraven. ficient to maintain blood levels at 15mg. %.

b. Saline, glucose and plasma, intraven.

c. Intravenous administration of aqueous renal cortical extract by continuous drip—dos based on weight. Desoxycorticosteron acetate oil may be given intramusc, but is potentia dangerous.

d. Adrenalin to sustain the blood pressure.

e. Vitamin K in the newborn.

All patients who recovered, received adre cortical extract. No relapses occurred follow treatment and no cases of Addison's disease h been described as following this condition.

The Waterhouse-Friderichsen Syndrome h been more frequently reported during the p few years. This diagnosis should be kept mind in all cases of meningococcemia, more esp cially in children but also in older patie showing evidence of circulatory collapse, toxe and purpuric manifestations, where the illness been brief and overwhelming. Treatment m be early and intensive.

Case Report

About midnight on January 15, 1947, an 8 months old infant boy weighing 28 pounds, was admitted to St. Boniface Hospital having been ill at home for five days with moderately severe diarrhea. There had been no other illness. The baby had been born at term pregnancy and labour had been normal. During the afternoon of January 15th, the mother had noted several red spots on the infant's buttocks and abdomen and he had seemed listless.

Temperature on admission was 103, the baby was pale but not in distress. Within the hour diffuse ecchymoses appeared suddenly over the entire body. The abdomen was distended; the baby suddenly became cyanosed, Cheynes Stokes breathing developed, shock ensued and within 15 minutes the patient expired.

Post-mortem revealed bilateral adrenal haemorrrhage of such an extent that the adrenal cortex could not be differentiated from the adrenal medulla; in addition there was thymic enlargement together with hyperplasia of the mesentericlymph nodes. A single area of necrosis was observed in the liver. This would appear to be a case of the Waterhouse-Friderichsen Syndrome.

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Comments

The syndrome described above has received considerable attention in the pediatric literature of recent years. It is interesting to mention here Williams' findings at Melbourne. Out of seventeen fatal cases of the Waterhouse-Friderichsen Syndrome only nine presented bilateral adrenal haemorrhage at the autopsy, in spite of the fact that the clinical findings were the same in the whole group. He believes that adrenal haemorrhage is not as important factor in causing death as is commonly accepted in cases of fulminating meningococcemia.

We have observed a young female child recently who, in addition to presenting the usual clinical and laboratory features of Meningococcic Meningitis, was cyanosed, her pulse was very weak and thready, her rectal temperature was 109.4 degrees and she showed numerous cutaneous petechiae. These features are commonly considered sufficient for the diagnosis of Waterhouse-Friderichsen Syndrome, even without the presence of massive cutaneous haemorrhages, although there remains some room for doubt. Adrenal replacement therapy in this case was delayed and quite insufficient if compared with the dose commonly recommended. In spite of this the child survived. Whether this observation is in support of Williams' views is debatable. Until more is known about this syndrome the generally accepted treatment as described above should be followed with the possible addition of penicillin.

J. G.

Acute Otitis Media in Childhood

M. M. Pierce, B.A., M.D.

Acute Otitis Media is one of the commonest diseases in childhood and infancy; and yet it is a condition which may be easily overlooked. Many cases of pyrexia of unknown origin have been found due to an undiagnosed acute otitis media.

Any acute inflammation of the middle ear cavity in known as an otitis media. As in acute inflammation anywhere suppuration may or may not occur. This depends on such factors as the virulence of the infecting agent and the resistance of the patient.

For practical purposes we classify acute middle ear infections as: (1) Acute Catarrhal Otitis Media, (2) Acute Suppurative Otitis Media.

The acute Catarrhal otitis media is characterized by an inflammatory process involving the Eustachian tube, tympanic cavity and the tympanic membranes.

The acute Suppurative otitis media is an advanced stage of the above and is characterized by a suppurative process involving the Tympanic cavity and Tympanic membrane; the difference between the two being only one of degree, and the one shades into the other.

Aetiology

How the infection reaches the Middle ear is a controversial subject. However, it is accepted that by far the commonest way is by extension from the nasopharynx via the Eustachian tube. The less common modes of entrance are via the external meatus, the internal auditory meatus and the blood stream.

The commonest infecting organisms are the streptococcus hemolyticus, the staphylococcus, the pneumococcus and streptococcus viridans.

The immediate predisposing causes are: (1) Acute Upper Respiratory Tract Infections caused by virus or bacterial activity; e.g., acute coryza, acute sinusitis, acute tonsillitis and "adenoiditis." In this group the hypertrophic adenoids which tend to interfere with ventilation and drainage from the nose and which by their anatomic structure can retain infection, become, because of their proximity to the mouths of the Eustachian tubes, an important factor in the aetiology.

(2) Acute Infectious Fevers — scarlet fever, measles, whooping cough, and diphtheria are frequently complicated by acute otitis media.

The incidence of acute Suppurative otitis media in scarlet fever varies from 10 to 15% of all cases. It occurs in about 10% of cases of measles.

(3) Rarer causes: Nose and throat operations in the presence of an acute rhinitis or tonsillitis will often be complicated by an extension of infection to the middle ear. Improper and forceful blowing of the nose during an acute upper respiratory episode may result in infected matter being forced into the middle ear.

Before going on to discuss the symptomatology a brief outline of certain anatomical differences between infants and adults is relevant.

(a) The Eustachian tube is shorter and wider than in the adult and therefore: (I) Infection can pass more easily from the nasopharynx to the middle ear; (II) complete obstruction of the Eustachian tube is less likely and therefore a certain amount of drainage back into the pharynx may result. This may prevent the pressure in the middle ear from rising high enough to cause severe pain and the aural focus may be easily overlooked in the examination. This anatomical fact may also explain the lack of marked changes one notes in the drum picture.

(b) The drum is thicker and will account for delay in perforation.

(c) The mastoid antrum lies near the surface and frequently there is a dehiscence of bone over it. It also lies at a higher level than in adults.

These facts will account for the tenderness one finds over the antrum and which tends to disappear once drainage is established. It also accounts for the frequency of subperiosteal abcess in children. The position of the antrum is important surgically as the incision for a mastoidectomy in infants must be made at a higher level.

(d) The petro-squamous suture is unossified in infants and forms a path between middle ear and middle cranial fossa.

Signs and Symptoms

The symptoms and signs of the immediate predisposing condition need not be enumerated.

The aural symptoms may vary from a slight elevation in temperature with a complaint of mild earache or a fullness in the affected ear to a temperature elevation of 105° with a complaint of intense, throbbing pain in the ear.

In infants restlessness, food refusal and crying may be the only indications of pain. Often head rolling and tugging at the ear will make one suspicious of the offending member.

Frequently the constitutional symptoms may be suggestive of meningitis with vomiting, convulsions and neck rigidity. Occasionally the infa may vomit at the onset and later develop diarrhoea. It is therefore no wonder that t diagnosis may occasionally be a problem.

The pain and discomfort will disappear as t disease process subsides in response to prop treatment; if the disease process progresses rel is obtained by spontaneous rupture or incisi of the drum membrane.

The aural examination usually clinches t diagnosis. Here too the findings are not sta The severity of the infection determines the p ture one finds. It will vary from a slight dullne of the drum to an injection of the meatus a circumference of the drum with no loss of outli to a bulging beefy drum with no landmarks reco nizable.

If the drum has ruptured, serosanguinous mucopurulent discharge may be noted in t canal. The type of discharge one finds depen on the stage of the infection. As a rule it serosanguinous at first and later changes to mu purulent and purulent in character.

The perforation if it has occurred spontaneous may often be difficult to visualize. As a rule it found in the posterior-superior quadrant where pulsating discharge may be noted. In cases co plicating infectious fevers, the perforations as rule are larger.

In infants it is quite common to find p auricular tenderness over the area of the antru This usually disappears once the middle ear pre sure is released. Where hearing acuity can tested for, it will be found to be diminished in t affected ear.

Complications

Most cases of acute otitis media terminate in cure. However, a few cases may be complicate by more serious conditions. The chief dangers the disease in children and infants are:

(1) A tendency to become chronic,

(2) Acute mastoiditis,

(3) Intracranial complications (a) Meningitis an extradural abscess are the most importa (b) Sinus Thrombosis is rare under the age 4, and is exceedingly rare in infants under months, (c) Brain abscess—rare.

Treatment

It must be remembered that practically all i fections of the middle ear are secondary to nasopharyngitis. Treatment must therefore b directed towards the cure not only of the midd ear infection but also of the Eustachian tube in fection and particularly the infection in the nas pharynx. Our treatment is therefore directed t the primary condition as well as to the compl cating middle ear infection.

(1) **Chemotherapy takes first place** in our routine of treatment. It has the added advantage that it has a beneficial effect on both the nasopharyngeal as well as the otitic complications.

Since the advent of the sulfonamides and more especially since penicillin has become readily available, the incidence of mastoiditis and other complications has taken a sharp drop. Just as important has been the favorable reaction of the otitis media to chemotherapy.

House in a review of over 3,000 cases of patients hospitalized because of otitis media before and after the general therapeutic use of sulfonamide drugs began, came to the following conclusions:

(a) The number of patients hospitalized because of otitis media has decreased by 50%.

(b) The incidence of mastoidectomy has been reduced by two-thirds.

(c) The mortality rate of otitic complications has been reduced by one-half.

It has been my practice to use both sulfonamides and penicillin simultaneously in doses appropriate to age and weight. Sulfadiazine has been the sulfonamide of choice.

The chemotherapy is continued for several days after the temperature, pain and drum markings have returned to normal in cases of the catarrhal type and for several days after the discharge has ceased in the suppurative type.

Sulfonamide therapy is, however, still the "sheet anchor" in chemotherapy, as many of the cases are treated at home and penicillin intramuscularly in adequate dosage is not a convenient form of therapy.

(2) **To ensure proper ventilation and drainage** of the nasal passages and the Eustachian tubes, vaso constrictors in the form of ephedrine one-half to one per cent in normal saline, or its equivalents should be prescribed. The addition of penicillin in doses of 500 units to the cubic centimetre can be added to the vaso constrictor to help control secondary infection in the nasopharynx.

(3) **Heat in the wet or dry form applied directly** to the ear and mastoid area will add to the patient's comfort.

(4) **Aural Medication.** This is a controversial subject. The therapeutic benefit of analgesic drops is very questionable. Phenol and Glycerine drops which have been standard treatment for many years should not be used. The phenol produces a desquamation of the superficial epithelium, both of the tympanic membrane and the external canal, and thus obscure landmarks by filling the canal with a soggy debris.

The value of other hygroscopic drops such as auralgan in catarrhal otitis media is also open to question. However, the heat supplied by the drops (if warmed) and the splinting action of the oil on the drum may be helpful, also, it relieves the mother to know that she is directly treating the offending organ. Analgesics in proper dosage will serve the same purpose more adequately.

(5) **In cases where the drum is still intact** one must first decide whether to incise the drum. If there is pain, loss of drum markings, or bulging, an incision of the drum should be carried out. The maximum of "if in doubt, incise" is an excellent one.

General anesthesia should be the rule. Under aseptic technique an incision one-quarter to three-eighths of an inch in length and curved in conformity with the contour of the canal is made in the posterior inferior quadrant. The incision should be made from above downward. A swab for culture should be taken if facilities for such are available. The canal is then lightly packed with ½-inch gauze. The gauze is removed within 24 hours. The regime after incision is the same as for acute suppurative otitis media and will be described shortly.

(6) **In cases where the drum has already ruptured** and ear is found to be discharging a decision must be made as to adequacy of drainage. If the perforation is small or placed too high to permit of easy drainage an incision should be made as described above. This will accelerate the cure.

(7) **The treatment of the otorrhea as a rule is the major problem** both for the child and the person responsible for giving the treatment; at best it is not a comfortable experience for the child. Dry mop the ear as often as necessary with cotton tipped applicators. This is done to promote drainage and to prevent any obstruction of the perforation. A small strip of ½-inch gauze can also be inserted into the canal to facilitate the drainage. These wicks should be changed frequently.

In cases where the discharge is stringy or thick and not easily mopped, gentle irrigation of the canal with warm sterile saline solution is beneficial. In such cases, too, the instillation of peroxide or caroid solutions or powder, followed by mopping will clear any tenacious discharge.

(8) **The instillation of antiseptic or antibiotic drops** following the cleansing is beneficial. Penicillin, otosmosan, otomide, boric and alcohol (an old standby) and S.T. 37 have proven useful because of their antiseptic and drying action. Penicillin locally has not proved to be as useful as we had originally hoped. Alternating the various medications often proves to be a helpful procedure.

(9) **The skin in the area of the concha** and external auditory canal should be kept well lubricated with vaseline to prevent skin excoriation from the discharge.

On the regime described above the average Catarrhal otitis media will resolve in three to five

days and the Suppurative otitis media in six to ten days.

Your responsibility does not end, however, with the resolution of the otitis media. Frequently as a result of the infection fine adhesions may be left between the ossicles. This will cause a dampening to conduction of sound waves; a similar condition may be found in the Eustachian tubes.

To alleviate this, pneumomassage is often very helpful. All it requires is the bulb attachment which fits the average electric otoscope. Several inflations will tend to break any inter-ossicular adhesions. This procedure can be carried out even on infants.

If the child is old enough, politzerization should be attempted to ensure the patency of the Eustachian tube. (This procedure is occasionally helpful in active treatment when cleansing of a pulsating discharge in the middle ear is desired).

And, finally, if there has been a history of repeated attacks of nasopharyngitis, the condition of the adenoids should be determined as they are the greatest single factor responsible for middle ear involvement.

References

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2. Diseases of the Nose, Throat and Ear. Jackson.
3. Diseases of the Nose, Throat and Ear. H. C. Ballen
4. H.P. House—Archives of Otolaryngology, April, 194
5. Sulfonamide Therapy in ASOM in Children. A Otoloryngology, June, 1944
6. Treatment of ASOM with Penicillin. Weinstein a Atherton, JAMA, October 13, 1945.

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International Congress of Pediatrics

The fifth International Congress of Pediatr will be held July 14 to July 17, 1947, at t Waldorf-Astoria Hotel, New York, N.Y. Previ Congresses have been held in Paris (1912), Sto holm (1930), London (1933) and Rome (1937). T leading pediatricians from every country in t world will be present and complete translati service will be available. A feature of the Congr will be an extensive scientific exhibit. Clini Demonstrations will be held in various la hospitals and Post-Congress tours will be arrang to Clinics and points of interest. Anyone interest and planning to attend this Congress should dire application to Miss Sylvia Peltonen, Housi Bureau, New York Convention, 233 Broadwa New York, N.Y.

Medical Happenings for May

Thursday, 1—

Luncheon, Misericordia Hospital, 12:30 p.m.

Wednesday, 7—

Tumor Clinic, Winnipeg General Hospital, 9:00 a.m.

Thursday, 8—

Luncheon, Winnipeg General Hospital, 12:30 p.m.

Thursday, 8—

Tumor Clinic, Winnipeg General Hospital, 9:00 a.m.

Friday, 9—

Ward Rounds, Children's Hospital, 11:00 a.m.

Friday, 9—

Luncheon, St. Boniface Hospital, 12:30 p.m.

Tuesday, 13—

Tumor Clinic, St. Boniface Hospital, 10:00 a.m.

Wednesday, 14—

Luncheon, Victoria Hospital, 12:30 p.m.

Thursday, 15—

Luncheon, Grace Hospital, 12.30 p.m.

Thursday, 15—

Tumor Clinic, Winnipeg General Hospital, 9:00 a.m.

Friday, 16—

Ward Rounds, Children's Hospital, 11:00 a.m.

Friday, 16—

Luncheon, Winnipeg General Hospital, 12:30 p.m.

Tuesday, 20—

Tumor Clinic, St. Boniface Hospital, 10:00 a.m.

Wednesday, 21—

Meeting, Winnipeg Medical Society, 8:15 p.m. Medical College.

Thursday, 22—

Luncheon, St. Joseph's Hospital, 12:30 p.m.

Thursday, 22—

Tumor Clinic, Winnipeg General Hospital, 9:00 a.m.

Friday, 23—

Ward Rounds, Children's Hospital, 11:00 a.m.

Tuesday, 24—

Luncheon, St. Boniface Hospital, 12.30 p.m.

Wednesday, 28—

Tumor Clinic, St. Boniface Hospital, 10:00 a.m.

ANAESTHESIOLOGY

Edited by P. C. Lund, M.D., Anaesthetist, Deer Lodge Hospital

Notice of Meeting

The next meeting of the Manitoba Division of the Canadian Anaesthetists' Society will be a Supper Meeting at the Medical Arts Club, Tuesday, May 6th, at 6.15 p.m.

The guest speaker will be J. C. Hossack, M.D., editor-in-chief of the Manitoba Medical Review.

Election of officers for the ensuing term will also take place.

Report of Meeting

The April meeting of the Manitoba Division of the Canadian Anaesthetists' Society was devoted almost entirely to obstetrical anaesthesia and analgesia.

Dr. S. Kobrinsky, chief of the Dept. of Ob. and Gyn. at Grace Hospital, presented a most interesting paper entitled "Obstetrical Anaesthesia and Analgesia—The Obstetrician's Viewpoint." An active discussion and Question period followed.

The Dept. of Anaesthesia at St. Boniface Hospital presented a symposium on obstetrical anaesthesia, the subjects being as follows.

(a) Caudal and Low Spinal Anaesthesia in Obstetrics, by Dr. M. Bennett.

(b) Some less commonly used methods of Obstetrical Anaesthesia, by Dr. R. Letienne.

(c) The Effects of Anaesthetic Agents as measured by Tocographic Methods, by Dr. C. Atchison.

A keen interest in these well-prepared papers was shown by all present. At this meeting we were honored by the presence of several prominent local obstetricians and gynecologists who took an active part in the discussion, presenting their views on this timely subject.

During the discussion period it was pointed out by Dr. B. Best of the Dept. of Ob. and Gyn. at the General Hospital, that a great deal of time and attention is paid to anaesthesia in geriatrics but very little to the administration of safe and satisfactory anaesthesia to the young mothers who really are the most important individuals in the community.

Briefly the main conclusions reached at the meeting were as follows:

1. The facilities for the administration of modern, safe, satisfactory obstetrical anaesthesia in the city of Winnipeg is inadequate.

2. There is insufficient interest and attention paid to obstetrical anaesthesia. It was pointed out that this was in large measure due to our economic situation.

3. The responsibility for alleviating the above unsatisfactory conditions should be shared by hospital management, obstetricians and anaesthetists.

P. C. Lund, M.D.

Low Spinal Anaesthesia in Obstetrics in the Indianapolis City Hospital

Salb, R. L. and Mueller, Lillian: Anaesth. and Analg. 25:84-87 (March-April), 1946.

Spinal anaesthesia was tried in a series of 250 cases at the Indianapolis City Hospital during 1945. The technique used for the injection consisted of first placing the patient in the lateral decubitus position. The knees were brought up to the abdomen and the chin was brought to the chest. Spinal puncture was made in the fourth lumbar interspace using 22 gauge malleable spinal needles 3½ inches in length. After the puncture was made 1 c.c. of spinal fluid was permitted to drip into a sterile vial containing 50 mg. of procaine. After the procaine crystals had dissolved in the spinal fluid the solution was injected into the subarachnoid space. The spinal needle was left in place during the mixing of the procaine, with the stylet being used to stop the flow of spinal fluid. If a bloody tap was encountered or if it was impossible to enter the subarachnoid space from the fourth interspace, then a puncture was attempted in the third interspace. If repeated bloody taps were encountered the method was discontinued. In the majority of cases the patient ceased to feel labor pains in about 3 to 5 minutes after the injection. . There was no marked fall in blood pressure and ephedrine was not used in a single case.

Uterine contractions continued while the patient was under the anaesthetic; however, the patient lost all urge to bear down and to use accessory powers of labor. Most patients promptly fell asleep after they were relieved of labor pains. Bearing down could be induced if the patients were asked to do so, but it was never with the same vigor as in normal second stage of labor. The anaesthetic was administered after full dilatation of the cervix. In any of the 250 cases delivered 206 were free of any pain during

delivery. If any pain was felt during delivery, it was usually upon traction on the forceps. If the patient complained at the time, supplemental anaesthesia such as nitrous oxide or ether were given for the delivery. Manual removal of the placenta was necessary in three cases because of a contraction ring incarcerating the placenta in the uterine cavity. Manual removal of the placenta was more difficult under spinal anaesthesia than under ether anaesthesia because of lack of relaxation of the uterine musculature under spinal anaesthesia.

In two patients there was failure of anaesthesia of the perineum after injection of 50 mg. of procaine in 1 cc. of spinal fluid. This could be accounted for only by the fact that the solution did not reach the subarachnoid space. The incidence of urinary retention was no greater among these patients than among those receiving ether anaesthesia. Headache was seldom complained of and never required a narcotic for its relief. After-pains were no more severe following spinal anaesthesia than after no anaesthesia, or after ether anaesthesia. After-pains were certainly not complained of as when caudal anaesthesia was given. One primipara of this series suffered from retention and incontinence of urine for eight days postpartum and recovered only after being allowed to be up on her feet and to discontinue the use of the bed pan. The baby was in no way narcotized under spinal anaesthesia and usually breathed spontaneously before delivery of the umbilicus.

The disadvantage of spinal anaesthesia consists of possible sensitivity of the patient to the anaesthetic used. In addition there is lack of relaxation of the uterine musculature in attempting any intrauterine operative maneuver. In this series of cases the advice of other authors was taken and no attempt was made to make any intra-uterine manipulation with the exception of manual removal of the placenta.

P. C. L.

An Analysis of 500 Obstetrical Cases with Continuous Caudal Anaesthesia Using Pontocaine. Anaesthesiology. 7: 355-374 (July), 1946, Brown, H. O., Thomson, J. M., and Fitzgerald, J. E.

The present paper is an analysis of the first 500 cases of continuous caudal anaesthesia performed at Cook County Hospital (Chicago, Illinois), between 1943 and October, 1944, in which pontocaine hydrochloride was employed in various concentrations both with and without a vasoconstrictor. All of the 500 cases were vaginal deliveries. The choice of pontocaine was deliberately made with the intention of reducing the frequency of injections by employing an agent having a greater duration than procaine. Pontocaine was chosen also on the basis of its corrected toxicity ratio compared to procaine.

We feel that the use of a vasoconstrictor in the caudal anaesthetic solution is an important safeguard, limiting the rate of absorption from a rather vascular space. In addition, we have found that the suprarenin (brand of epinephrine) 1:200,000 concentration makes effective the low concentration (1:1,000) pontocaine, and greatly increases the duration of each injection. With this solution we obtain from three to five hours relief of first stage labor pain from the single injection after the test dose. Although subsequent doses frequently have a shorter duration, it is estimated that the average requirement of most patients has been within limits of 8 to 20 mg. per hour of 0.10 per cent pontocaine. The fear that the suprarenin may have an undesirable relaxing effect on the uterus is apparently unfounded.

Continuous caudal anaesthesia is most appreciated in primigravidous labor in which it affords pain relief for the latter part of the first stage, remarkable relaxation of the perineal floor for manual or instrumental delivery, and perfect anaesthesia for the episiotomy and repair. In prolonged labor the parturient is afforded needed rest and is more able to take and retain nourishment. The method is beneficial in eclamptic patients. There is less need and less time for caudal anaesthesia in multipara, but, if used, anaesthesia should be instituted early enough to insure this success. In every case the patient must desire relief, and be psychologically favorable. Caudal anaesthesia should not be initiated until there is evidence that the patient is definitely in active labor, with regular and frequent hard contractions and definite dilatation of the cervix in progress. If anaesthesia is indicated in premature labor, continuous caudal should rank with local and pudendal nerve block as methods of choice because of freedom of pharmacologic depressing effects on the fetus, and perhaps less trauma to the fetal head.

Relative contraindications include inexperience of the operator or undue fear of the method by the patient. Obstetrical complications (placenta praevia, abruptio placentae, cephalopelvic disproportion, unless caudal is to be used for cesarean and contemplated obstetrical procedure requires complete uterine relaxation (version and extraction) may make the method an unwise choice. Obesity, deformity, debility, severe anemia, neurologic disease, hysteria, syphilis, a pilonidal "dimple" and a history of sensitivity to local anaesthesia may be added as deterring factors. Absolute contra indications include local dermatitis, inflammation and pilonidal disease.

method should be discontinued if subarachnoid puncture occurs with the caudal needle. There have been no major complications imperiling the life of the mother in this obstetrical series. In fetal mortality rate of 2.0 per cent, factors unrelated to the anaesthesia account for 9 of the 10 cases.

Undue fall in blood pressure is usually associated with too high a level of skin anaesthesia. There were no cases of respiratory or vascular collapse due to intravascular or subarachnoid injection even though in a few cases the level of skin analgesia rose above the xiphoid, indicating a high extension of the initial injection in the peridural space.

Twelve of the patients complained of a pounding frontal headache during the initial injections. One patient complained of transient precordial pain; 1 palpitation; and 7 had nausea and emesis briefly following the first injection. Twelve had chilly sensations. Six others suffered severe chills following injection, in one lasting fifty minutes, but in only 4 of these was there associated fever. Nine patients suffered severe postpartum hemorrhage (3 patients required blood transfusions), but, in general, the blood loss seemed minimal, as reported by others. In 3 patients relaxation was so marked that external protrusion of the cervix occurred following delivery. Twenty-seven patients presented postpartum evidence of mild endometritis, 7 of pyelitis, and 29 of urinary retention requiring catheterization. Two patients required retention catheters. This incidence is not greater than in those without caudal anaesthesia.

In addition to adequate pain relief due to blocking of sensory nerve fibers, more or less weakness of motor control of the lower extremities occurred in a majority of the cases during caudal anaesthesia. The motor and sensory loss in the lower extremities usually disappeared within three to six hours after delivery. Another had urinary and fecal incontinence for eleven days. Bladder incontinence occurred in 1 case for six weeks. There was one instance of a relaxed rectal sphincter at the six weeks postpartum examination. An analysis of the entire series of 500 cases reveals that the anaesthesia and analgesia were entirely satisfactory in 428 cases. Of the remaining 72, only 13 were definite failures due to inability to insert the needle into the caudal canal.

P. C. L.

SURGERY

Case Report

Lump in Right Groin

J. E. Hudson and G. Pincock

Present History

Mr. J. C. W., age 56. Complaint: Painful lump in right groin, Jan. 8, 1947. He developed a painful swelling in his right groin after using a pinch bar to move a car of grain. He applied heat and went to bed with some relief. The roads were blocked so that he was unable to see the doctor until Jan. 9, 1947.

Jan. 11, 1947. Still no appreciable change in mass.

Previous History

He has had recurrent attacks of asthma for years, and was treated with aminophylline and ephedrine. This controlled his symptoms sufficiently so that he was able to carry on his duties without undue distress.

He had a thorough medical examination in November, 1946. At that time he was found to be in good health. There was no sign of any hernia but the external inguinal rings were a little large.

Examination

A grey haired man who appeared his stated age of 56. He looked well and moved about without obvious discomfort. General examination was essentially negative aside from a small but definite mass lying along the right spermatic cord and extending up into the inguinal canal. The mass was somewhat soft and slightly tender. Impression: Hernial sac containing an irreducible omental plug.

Jan. 17, 1947. Operation was performed under spinal anaesthetic. Exposure of the right spermatic cord revealed a hernial sac lying medial to the cord and containing an irreducible soft mass. The tip of the sac was distended with fluid. Incision of the sac revealed an appendix, four inches long and tied securely to the hernial sac. These adhesions were apparently of recent origin.

The appendix was removed through the hernial orifice and the incision closed in layers.

The patient was allowed out of bed the same day as his operation, and the post-operative course was uneventful.

J. E. H.

OBSTETRICS

Placenta Praevia with a Case Report

A. R. Tanner, M.D.
Assistant Obstetrician Grace Hospital

Placenta Praevia remains as one of the major complications in obstetrics. Improvement in the maternal and foetal mortality rates in placenta praevia over the past twenty years can be attributed to the increasing use of caesarean section and improved techniques and facilities for blood transfusion. Methods of diagnosis remain essentially unchanged except for the sometimes questionable assistance offered by radiography.

It is the intention of this paper briefly to review the subject of Placenta Praevia from the standpoint of the general practitioner and to present a recent case report.

Placenta Praevia, translated, means simply, placenta first or, in the terms frequently used in explanations to the husband or relatives, "the after-birth is coming first." The term "after-birth" is so widely understood by the laity that as a rule the husband or other relatives immediately grasp the significance, particularly for the infant, when told that the patient has a placenta praevia. The classification of Placenta Praevia falls into three important groups depending on the relationship of the placental attachment to the internal cervical os and the lower uterine segment. The terminology used in the classification of placenta praevia is not standard with all schools. However, if in each case the relationship of the placenta to the lower uterine segment and the internal cervical os is thoroughly understood, then the proper treatment can be carried out.

The first and most important group is that in which the placental attachment is wholly within the lower uterine segment and the placenta completely covers the internal cervical os. This is central or complete placenta praevia.

The second group is that in which the placental attachment is wholly or partly within the lower uterine segment and reaches the edge of or partly covers the internal cervical os. This is marginal or partial placenta praevia.

The third group is that in which the placental attachment is partly within the lower uterine segment but does not reach the edge of the internal cervical os. This is lateral placenta praevia.

The etiology of placenta praevia is obscure and a discussion is not important in this type of paper. The incidence is variously reported as from 1 in 250 to 1 in 1,000. It is more common in multigravid women and rarely occurs more than once in the same patient.

The all important symptom and sign of placenta praevia is painless vaginal bleeding occurring the latter months of pregnancy. This is term by some writers "unavoidable hemorrhage" distinct from "avoidable or accidental hemorrhage which is accompanied by pain. The bleeding may occur as early as the sixth month or may not occur until the onset of labour at term. There appears to be no relationship between activity on the part of the patient and the occurrence of bleeding as the initial hemorrhage may occur while the patient is asleep in bed. The initial hemorrhage is as a rule not severe but if allowed to recur a successive hemorrhage is more severe and any one hemorrhage, including the first, may rapidly lead to exsanguination of the patient.

In the absence of the cardinal symptom and sign of painless vaginal bleeding there are certain other important signs which may lead one to suspect the presence of placenta praevia. The most important of these is the persistent occurrence of malposition and malpresentation of the foetus late in pregnancy. A transverse lie of the foetus which cannot be corrected or which recurs after correction, should lead one to suspect placenta praevia, particularly the central or complete variety. Similarly, a breech presentation late in pregnancy which cannot be corrected or recurs after correction should lead one to suspect placenta praevia, more particularly of the partial or lateral varieties. It can readily be understood how, in the first instance a placenta completely filling the lower uterine segment will result in failure of either pole of the foetus to present, with a consequent transverse lie, and in the second instance a placenta partly filling the lower uterine segment will result in the smaller pole of the foetus, the breech presenting. A further important sign is, in the absence of pelvic disproportion and with an otherwise normal pelvis, failure of the presenting part to engage in a primipara, in the last three weeks of pregnancy and in a multipara at the onset of labour. Lastly of importance are the findings on vaginal examination or rectal examination late in pregnancy or at the onset of labour. These are markedly increased pulsation in the fornices and inability to feel the presenting part, with the sensation of feeling a thick boggy mass interposed between the examining finger and the presenting part.

The diagnosis of placenta praevia is made under two different sets of circumstances and from the standpoint of providing the best treatment for the mother and child it is essential that the diagnosis be exact.

The first set of circumstances is when painless bleeding has occurred late in pregnancy. Diagnosis becomes an urgent matter but no steps should be taken to make the diagnosis until all possible provision has been made for delivery and the treatment of hemorrhage. Whenever possible the patient should be placed in hospital and arrangements made for transfusion of blood, plasma or saline. In ordering blood for transfusion it must be remembered that women should only be transfused with Rh compatible blood. If unable to place the patient in hospital every possible provision must be made for dealing with hemorrhage before proceeding further to make the diagnosis. Having taken the above precautions (with the patient in hospital) and if the pregnancy is not yet of thirty-four weeks duration and the initial hemorrhage is not severe, in the interests of the foetus one may treat the patient expectantly by complete rest in bed and under close observation for further bleeding. Once it is decided that expectant treatment is not possible or is no longer necessary the next step in diagnosis is vaginal examination with full aseptic and antiseptic preparations. As a general rule when bleeding has occurred there is some dilatation of the cervix and it is possible to pass one finger gently through the os. In central and marginal placenta praevia one feels the placenta as a thick boggy mass which gives the same sensation as pressing the finger into a wet compressed sponge. In the central variety one feels nothing but this mass completely covering the internal os. In the marginal variety one feels the edge of the mass as it partly overlaps the internal os. In the lateral variety one does not feel placenta. Two conditions which may be confused with placenta praevia on vaginal examination are blood clot in the lower pole of the uterus and hydatidiform mole. Blood clot can be distinguished by its more friable jelly like consistency and hydatidiform mole by the "chicken jelly" globules in the bloody discharge. If the cervix is closed one must depend on the signs of increased pulsation, difficulty in feeling the presenting part and the sensation of a thick boggy mass interposed between the examining finger and the presenting part.

The second set of circumstances is that in which bleeding has not occurred but where one or more of the "suspicious" signs already mentioned are present. The diagnosis is not so urgent but is equally important. It is here that the use of x-ray enters into the diagnosis. The commonest method of x-ray diagnosis is by the use of soft tissue plates in the antero-posterior and lateral diameters. Its chief aid is as a negative finding in ruling out the diagnosis when the radiologist can visualize the presenting part well down in the true pelvis and a definite crescentic placental shadow high up in the uterus. Little reliance can be placed on this method in the presence of a transverse lie of the foetus even though a definite crescentic shadow may be seen in the fundus. The second method is by the use of a contrast medium injected into the bladder and estimating the distance between the shadow of the contrast medium and the shadow of the presenting part. This method can only be relied on when the vertex is presenting as the breech does not produce a definite enough shadow. The third method, which is still experimental, is by the injection of a contrast medium through the abdominal wall and uterine wall into the amniotic sac and visualizing the placenta as a filling defect in the opaque amniotic fluid. This method is accompanied by the disadvantage of rapidly inducing labour.

Treatment depends on the type of placenta praevia present, the condition of the patient, and the conditions under which the patient has to be treated. Under ideal conditions the treatment of central placenta praevia is Caesarian section with provision for transfusion of blood and plasma if necessary. The treatment for marginal and lateral placenta praevia is rupture of the membranes, application of an abdominal binder, and to allow labour to proceed normally. Rupture of the membranes in the latter cases should be done at the time of vaginal examination for diagnosis. The above methods of treatment are for each type of placenta praevia the most conservative and most desirable from the standpoint of lowering maternal and foetal mortality rates.

Under other than ideal conditions and where the control of severe hemorrhage is necessary, more radical treatment may have to be resorted to. In central placenta praevia the placenta may have to be pierced and an internal podalic version with extraction of one foot and plugging of the lower uterine segment with the half breech may have to be done. A weight of two pounds attached over a pulley to the extracted foot is sufficient to hold the breech in the lower segment and control hemorrhage. Labour should then be allowed to proceed normally. Alternative to this manoeuvre and where the vertex is presenting, the placenta may be pierced and a Willet's forceps passed through the placenta to grasp the scalp and a similar tension weight applied to the Willet's forceps and labour allowed to proceed. The use of a De Ribes bag passed through or past the edge of placenta and inflated within the amniotic cavity with tension is generally considered obsolete. Finally, to control hemorrhage when any of the above methods are not possible or practicable, it may be necessary to pack the vagina

and apply an abdominal binder. These radical methods are all attended by greatly increased maternal and foetal mortality rates.

Case Report

Mrs. S., aged 26, para 2, gravida 3.

First examination 27th August, 1946, LNMP 8th February, 1946, expected date 15th November, 1946. Patient had slight vaginal bleeding for one day, 8th March. Present pregnancy normal. Two previous pregnancies, 1940 and 1943, were normal and labours were normal. First child weighed 8 lbs. 13 oz., and second child weighed 9 lbs. General physical examination was normal except for moderate varicose veins in both legs. Pelvis was normal with adequate external measurements. WR negative, Rh negative, no Rh antibodies present. Husband's blood WR negative, Rh positive. 26th September, 1946, complained of feeling of weight and discomfort in lower abdomen. 16th October, feeling well, vertex LOA. 30th October, breech LSA. External version attempted but foetus could be only partly turned. 7th November, vertex LOP. 25th November, vertex LOP, head is high. 6th December, transverse lie. X-rayed for placental site (soft tissue plate) x-ray report "single pregnancy. Foetus at term. Transverse presentation. The head is in the right flank and forward, the occiput upward. The placenta is on the right fundus." 8th December. It was considered that the patient was now some three weeks over term and it was decided to admit her to hospital for correction of the foetal position and to induce labour. She was admitted to the Misericordia Hospital on the evening of 8th December and prepared for external version the following morning. On examination on 9th December, the foetus was presenting by the vertex, the head was still high. It was decided to start her on a medical induction with castor oil and quinine. During the night of 9th-10th December she had irregular pains for about two hours followed some two hours later by slight vaginal bleeding. During the day, 10th December, she had no further pains and no further bleeding and it was then decided to do a surgical induction by rupture of the membranes. The following morning, 11th December, the patient was taken to the caseroom, scrubbed and draped in the normal manner in preparation for delivery. Vaginal examination with full aseptic precautions was made and finger passed readily through the cervix. A uterine dressing forceps was guided along the finger and pressed gently upwards against what was thought to be the membranes. With [illegible] pressure the forceps was felt to overcome [illegible] sistance and the blades were slightly separ[illegible] and withdrawn. There was an immediate [illegible] of bright red blood. Further examination [illegible] the finger now revealed the unmistakable [illegible] of a central placenta praevia. Intravenous [illegible] was established immediately and blood for [illegible] fusion was ordered and the patient was prep[illegible] for caesarean section as quickly as poss[illegible] Within an hour a low caesarean section [illegible] cyclopropane anaesthesia was done and an [illegible] 7 oz. living child delivered. The placenta [illegible] pletely covered the internal os and extended [illegible] on the anterior wall of the lower uterine segm[illegible] and had to be incised to enter the uterine ca[illegible] The patient received plasma and 400 c.c. [illegible] blood during and following the operation. [illegible] convalescence was uneventful and she was [illegible] charged on the twelfth day. It was discove[illegible] on the evening following her operation tha[illegible] the excitement and hurry of carrying out treatm[illegible] she had been transfused with Rh positive bl[illegible] She had no transfusion reaction and examina[illegible] of her blood on the evening of operation, on [illegible] February, 1947, and on 15th March, 1947, sho[illegible] no Rh antibodies. The baby was Rh positive [illegible] quite normal.

Summary

Placenta praevia is a major obstetrical c[illegible] plication.

Correct diagnosis is of utmost importance [illegible]

Painless vaginal bleeding in the latter mo[illegible] of pregnancy is the single most important [illegible] and symptom of placenta praevia.

Persistent malposition and malpresentation [illegible] the foetus late in pregnancy should lead one [illegible] suspect the presence of placenta praevia.

X-ray diagnosis of placenta praevia cannot [illegible] ways be relied upon, particularly in the abse[illegible] of vertex presentation.

Treatment should be as conservative as p[illegible] sible and the patient should be in hospital [illegible] every preparation made to combat and t[illegible] hemorrhage (Caesarean section for central p[illegible] centa praevia is considered as conservative tr[illegible] ment).

Blood transfusions for maternity patie[illegible] should not be carried out without ensuring [illegible] the patient and the donor are Rh compatible.

A case is reported which presents some of [illegible] pitfalls attendant upon the diagnosis and tr[illegible] ment of placenta praevia.

TUBERCULOSIS

The Anti-Tuberculosis Program in Manitoba

E. L. Ross, M.D.

Medical Director, Sanatorium Board of Manitoba

The dawn of intelligent effort to cope with tuberculosis was Koch's discovery of the tubercle bacillus in 1882. For centuries before this, man's efforts to control the White Plague were characterized by confusion and indecision and the misleading belief in heredity as an all-important factor. For forty years following Koch's revelation as to etiology, the sanatorium constituted our one and only form of organized attack. Twenty years ago we entered upon the second period with preventive measures coming to the fore. Even thirty years after the infectivity of tuberculosis had been proved, infection was still universal and since everyone semed to be infected anyway, the main efforts were turned towards building up resistance and attempting to cure those who broke down. As a result of improved living conditions, isolation and treatment in sanatorium and earlier diagnosis, we awoke to the fact that tuberculosis was no longer a universal infection and awoke to the possibility of its complete control, an essentially new viewpoint that enhanced the whole plan of attack. The emphasis on prevention does not detract from the role of the sanatorium because the foundation of an anti-tuberculosis campaign is an adequate number of beds for treatment.

The beginning of organized effort to cope with tuberculolsis in Manitoba goes back to the early years of the century and cannot be mentioned without coupling with it the name of the late Dr. D. A. Stewart. In 1909 he began his crusade and in the words of Miss Nan Moulton, "He was to tell of the world's awakening attitude to tuberculosis as controllable, avoidable, even conquerable; to sound the trumpets of a new war in Manitoba; to stimulate enlistment of interest and sympathy and funds for the War Chest." Through the efforts of the Provincial Board of Health, the newly formed Sanatorium Board, with the late Dr. R. M. Simpson as Chairman and Dr. Stewart as Crusader and Superintendent, the Sanatorium at Ninette was opened in 1910 with sixty-five beds for patients with early disease, but almost all who came in had late disease. A year after this start at Ninette the King Edward Hospital was built in Winnipeg. The first Great War greatly increased the demand for sanatorium beds and the capacity at Ninette was trebled in a few years. Still there were not enough beds, especially so after tuberculosis travelling clinics in partnership with the Public Health nursing service and the doctors of the Province began searching for new cases. With this need apparent, the Sisters of Charity built St. Boniface Sanatorium in St. Vital which soon greatly relieved the load of treatment. The need of a Tuberculosis Clinic centrally located in the Province to function as a clearing-house, pneumothorax and diagnostic clinic, was urgent not only for Winnipeg but for the whole Province so the Central Tuberculosis Clinic was opened in 1930 and has been increasingly used and useful since then with fifty beds for observation and temporary treatment and 8,000 out-patients examined yearly.

With four out of five having advanced tuberculosis by the time they reached sanatorium it became apparent that to find early disease before symptoms developed and before families and communities had become infected, it was necessary to get out from behind sanatorium walls and search for the disease among apparently well people, especially among those who were known to have been exposed to infection. So back in 1926 we set out with our first travelling clinic. The discovery of new cases earlier soon proved the effectiveness of this method of attack and for the last fifteen years travelling clinics have been held yearly, or twice yearly, at forty or more centres scattered throughout the Province, examining seven to ten thousand yearly. This was good but limited and it was not until the last few years that the case-finding program assumed anything like comprehensive proportions. This was due to the advent of the miniature x-ray film which made possible financially and technically the mass x-raying of everyone in a community. By the use of 70 mm. films on rolls like moving-picture film, eight hundred to one thousand people can be x-rayed daily and during 1946 with a large mobile unit, the Sanatorium Board x-rayed 82,000 people and the City of Winnipeg Health Department with their unit, 24,000. During the last three years 250,000 people in Manitoba have had chest x-rays by travelling clinics and surveys which is approximately 33 per cent of the total population and when chest x-rays by all other agencies, particularly those of the armed services, are considered the total number x-rayed is considerably greater.

Out of the total of 117,000 x-rayed on surveys and travelling clinics during 1946, 400 new discoveries of tuberculosis were made. By surveys about one in 300 x-rayed was found with past or present evidence of tuberculosis, although only one in 2,000 x-rayed had tuberculous disease that was active or doubtfully active.

Although the future may hold some specific agent to directly attack the tubercle bacillus, none as yet has been developed to the stage of practical application. Until then our efforts to eradicate tuberculosis must be directed to controlling the cause, namely by the finding of spreaders of the tubercle bacillus.

In Manitoba there are 750 sanatorium beds for White people and 130 for Indians, making a total of 880. At the present time there are 727 White people on treatment and 148 Indians, a total of 875. During the last few years our ability to treat and isolate all who needed treatment has been limited, and one may raise the question about intensifying our case-finding program when all discoveries cannot be treated. However it can be said that urgent and very infective cases have been admitted and as many of the others as possible, and quite a proportion of the minimal cases who are not infective can remain at home safe to themselves and families by periodic examinations, advice and supervision. The bed situation right now is worse than at any time, all institutions having waiting lists and delayed admission may prove disastrous to patient and family.

Although much has been accomplished, tuberculosis is still a major health problem and causes more loss of life years than any other disease.

The Anti-Tuberculosis Organization in Manitoba may be summarized as follows:

1. Sanatorium Board of Manitoba.

Comprised of 9 statutory and 20 elected members; responsible for the prevention and treatment of tuberculosis in Manitoba, and the formulation and carrying out of such policies as will effect these objectives; co-ordination of the work of all anti-tuberculosis agencies; responsible for administration of the Christmas Seal Fund and other funds raised to aid in the financing of the tuberculosis preventive campaign.

2. Manitoba Sanatorium—Ninette.

Established 1910—285 beds—operated by Sanatorium Board of Manitoba. Out-patient Department—1,000 examinations per year.

3. St. Boniface Sanatorium—St. Vital.

Established 1931—280 beds—operated by Sisters of Charity—Out-patient Department at St. Boniface Hospital—900-1,000 examinations per year.

4. King Edward Memorial Hospital—Winnipeg.

Established 1912—140 beds—operated by Municipal Hospitals Commission, City of Winnipeg—Out-patient Department (McKittrick Clinic), 1,600-1,700 examinations per year.

5. Central Tuberculosis Clinic—Winnipeg.

Established 1930—50 beds—operated by Sanatorium Board of Manitoba. Out-patient Department 8,000-9,000 examinations per year.

6. Dynevor Indian Hospital—Selkirk.

Established 1939—50 beds—operated by Sanatorium Board of Manitoba on behalf of Dominion Department of National Health and Welfare Indian Medical Services; complete cost borne by Indian Affairs Branch.

7. Clearwater Lake Indian Hospital—The Pas.

Established 1945—70 beds—operated by the Sanatorium Board of Manitoba on behalf of Dominion Department of National Health and Welfare Indian Medical Services; complete cost borne by Indian Affairs Branch. Out-patients clinic—(White held periodically at The Pas, Flin Flon, Sherridon; Indian travelling clinics, as arranged

8. Central Tuberculosis Registry—Winnipeg.

Operated at Central Tuberculosis Clinic by Provincial Department of Health and Public Welfare to record tuberculosis statistics for the Province and provide data for follow-up of known cases and contacts.

9. Travelling Clinics and Mass Surveys.

Operated by Sanatorium Board of Manitoba—91,000 examinations in 1946.

10. City of Winnipeg Health Department X-ray Unit.

Operated by City of Winnipeg, with Sanatorium Board of Manitoba co-operating and assisting—approximately 24,000 examinations in 1946.

11. Rehabilitation Division.

Operated by Sanatorium Board of Manitoba and serving patients in Manitoba Sanatorium, St. Boniface Sanatorium, King Edward Memorial Hospital and Out-patients.

12. The last and very recent addition is the Veterans Hospital in Brandon operated by the Department of Veterans Affairs for the treatment of Polish immigrants to Canada who have tuberculosis.

The Private Physician

The private physician and family doctor hold a paramount place in the anti-tuberculosis campaign. Although the widespread chest x-ray service through mass surveys and clinics find asymptomatic early tuberculosis, the patient's doctor has the first opportunity to suspect or diagnose tuberculosis once symptoms have developed and through him most of the active cases are discovered.

Tuberculosis produces the same symptoms and signs as twenty-five, one thousand or two thousand years ago but in our generation we have the advantage of the x-ray, the only method of examination that can exclude pulmonary tuberculosis. A family history of tuberculosis or known exposure to infection, pleurisy, blood-spitting, a protracted "cold," cough, tiredness, low-grade fever, sputum examination and persistent post-tussic apical crepitations are as significant as ever in leading to a diagnosis of tuberculosis.

Case Report

R. Danzinger, M.D.

Re: Mrs. S., aged 28 years.

Admitted to the St. Boniface Hospital in 1932, at the age of 14, with history of right lumbar back pain, plus marked acne of the face and back. Resident interne at that time suggested perinephritis as a tentative diagnosis.

In 1934, at the age of 16, the patient was admitted for an appendectomy for relief of this pain.

In 1938, at the age of 20, the patient had a spinal graft covering dorsal 11-12 and lumbar 1-2, for tuberculous spondylitis.

November 1st, 1942, at the age of 24, she presented herself with a tender mass in the right kidney region. The mass was palpable bimanually. My provisional diagnosis was "Tuberculous psoas abscess."

She was admitted to the hospital with the following findings: Weight, 90 pounds; Temperature, 102°; WBC, 26.00; polymorph, 90%; Flat plate of the abdomen—the right psoas muscle is not seen. There is a scoliosis of the lumbar spine with concavity to the right probably due to psoas muscle spasm.

November 4th, 1942: Large perinephric abscess drained through right lumbar incision. Transverse processes of upper lumbar vertebrae were bare. Smear of pus showed straphylococci. By November 29th the wound had healed. Weight 97 pounds. Was treated with sulphathiazole.

Ten months after the operation the patient was delivered of a baby girl after a normal pregnancy and labor.

October 11th, 1946: Patient admitted to hospital complaining of backache of two weeks duration. Temperature, 101°; pulse, 104; respiration, 20; Urinalysis, 1.020, acid, no pus cells; RBC 3,450,000; WBC 18,100; Hb. 85%; Sed. rate 31mm. in 1 hour plus 110. X-ray: Left kidney outline is clearly defined.

Right kidney outline cannot be detected. There are no psoas shadows visible. A dorso lumbar spine graft is present. There is a scoliosis convex to the left. No calculi are seen. Probably perinephric abscess on the right side. Dr. Kiernan.

Physical Examination: Very tender right costophrenic angle. Patient in bed, on back, with right hip flexed. Large mass palpable in the right kidney region.

Diagnosed as Recurrent Perinephric Abscess

Given penicillin 40,000 units every three hours.

October 15th, 1946, under ether anaesthesia, opened through lumbar incision. Large kidney basin full of thick creamy pus obtained, culture of which showed staphylococci. Abscess was retrorenal in location, with thick, hard, fibrous tissue behind the kidney. 300,000 units of penicillin were introduced in the cavity after irrigation with normal saline. Gauze was packed in the cavity.

On the 9th post-operative day, temperature returned to normal and remained normal. Penicillin was continued post-operatively for 15 days. Iron, mixed vitamins and anti-anemic diet were given. By October 28th drainage gauze pack had been completely removed.

October 27th, 1946: Flat plate of abdomen—negative.

Intravenous Pyelogram

Both kidneys visualize well, but upper and middle calyces of the right kidney are not distinctly outlined. Bladder outline is normal.

These findings are consistent with infection in upper pole of the right kidney. Tuberculous spondylitis between T 12 and L1. This appears quiescent. Dr. Kiernan.

November 5th, 1946: RBC, 5,000,000; Hb., 100%; Sed. rate 24 mm. in 1 hour, plus 32. Cath. specimen: Oct. 30, 1946: 1002-alk., no pus; Cath. specimen: Nov. 4, 1946: 1013-acid, rare pus cells. Wound healed Nov. 6th, 1946.

Discharged on the 22nd post operative day. Temperature and pulse normal, no pain, and able to move right hip and spine as usual again.

In reviewing her history these questions come to mind:

1. Did this woman have a non-suppurative perinephric cellulitis, from the age of 14, when the interne first considered a perinephric condition; and, did this continue as a chronic condition and then break down into an abscess in 1942?

2. Is this secondary to the right kidney, or to the spine, or blood born?

3. This woman has a history of frequent skin infections in the past number of years. She has had a spondylitis close to the abscess, and has abnormal appearing upper calyces of the right kidney. Her urine is always clear of pus.

4. Is this re-infection or residual infection reawakened?

This time 5,300,000 units of penicillin, we hope has sterilized the perirenal space and the osteomyelitis of spine.

Final Diagnosis

Osteomyelitis of the spine (Non Tubercular).

(a) Splinted with bone graft in 1938.

(b) Pus from bone, focus spreading about the kidney in 1942.

(c) Pus from bone, focus spreading and localizing between muscles and kidney in 1946.

Prognosis: Pus collections may form from time to time as in any osteomyelitis.

Hospital Clinical Reports

Reported by J. M. Whiteford, M.D.

Winnipeg General Hospital

Rowe's Methods in Treating Allergic Diseases

Dr. C. A. Adamson

Dr. Adamson, who spent several months working with Dr. Rowe in his Oakland, California, Clinic, reported briefly on some of the methods used. The preliminary investigation includes complete history, physical examination, X-rays and laboratory investigation as necessary. Scratch tests are used exclusively to identify the allergies in each case, although it is felt that with food allergies even scratch tests are not entirely reliable.

Following an analysis of approximately 1,500 cases of asthma, Dr. Rowe makes the following observations: Approximately 50% of these cases were due to food allergy alone, while 30% showed some food allergy elements; the remaining 20% showed no food allergy.

Symptomatic treatment during the stage of investigation is carried out with the usual therapeutic agents such as adrenalin, penicillin, aminophyllin, ephedrin, etc. These are stopped as soon as possible and the treatment is continued by the use of elimination diets and desensitization. In the procedure of desensitization solutions of very high dilution are used, e.g. 1 in 50 billion. Autogenous and respiratory vaccines are used for desensitization but not for immunization.

Dr. Adamson has under treatment now several cases of allergy in various forms. He is adhering closely to Dr. Rowe's methods and has promised to report on his results with these methods in Manitoba.

♦

Preliminary Report on Nitrogen Mustard Treatment

Dr. W. T. Dingle

Dr. Dingle drew the course of research associated with the preparation of mustard gas. During the recent war it was noted that certain compounds, known as nitrogen mustards, had two associated effects on the human body. On contact with the skin they produce vesication, while on internal absorption they inhibit cellular growth. This inhibition is most noticeable on rapidly growing tissues. Inhibition of growth in both malignant and benign neoplasms of certain types has been noted. The chief use of the nitrogen mustard group has been in the treatment of lymphomas and leukemias. No case has been cured, but this treatment is useful as a palliative measure; it has been of greatest value in the treatment of Hodgkin's disease.

Dr. Dingle presented case histories of two patients treated in the Winnipeg General Hospital with methyl bis- (B-chloroethyl) amine hydrochloride, one of the nitrogen mustards. Both of these cases showed early regression of tumors with relief of pain and generalized improvement in general condition. The nitrogen mustard group has been used also in the treatment of other malignant tumors which do not respond to other forms of treatment, but no success has been achieved with such tumors as malignant melanoma, multiple myeloma, and metastatic breast carcinoma. Considerable success has been noted in the treatment of polycythemia with these substances; the results are approximately as satisfactory as those obtained by the use of radio-active phosphorus.

Dr. Kilgour: There is some evidence that following treatment by nitrogen mustard, radio-resistant Hodgkin's disease regains its radio-sensitivity. If this is so, the scope of nitrogen mustard is increased. The use of this drug is possibly the first step in the chemical attack on neoplastic disease.

Dr. Thorlakson: I recently saw two cases at the Royal Victoria Hospital, in Montreal, in which a marked depression of bone marrow function followed the use of nitrogen mustard.

♦

Methaemoglobinaemia in Infants

Dr. Harry Medovy and Prof. Frank White

Dr. Medovy presented the histories of two infants with methaemoglobinaemia, each of which was attributed to consumption of water with an abnormally high nitrate content of approximately 140 p.p.m. He noted that emergency treatment of this condition could be carried out by the use of intravenous methylene blue but that elimination of contaminated water was usually sufficient, although slower.

Prof. Frank White: Methaemoglobinaemia is a product of the oxidation of haemoglobin but methaemoglobinaemia is produced by substances which are not oxidizing agents, e.g. aniline dyes, and is cured by substances which are oxidizing agents. The production of methaemoglobinaemia in vivo is probably the result of one of two mechanisms, either (1) increase of enzymic oxidation or (2) inhibition of enzymic reduction.

The familial type of methaemoglobinaemia is most likely the result of a delayed breakdown in methaemoglobinaemia rather than any increase in oxidation.

Comments on a Recent Trip to the University of Minnesota

Dr. J. T. Cruise

Dr. Cruise reported on a recent visit to Minneapolis, during which he attended a course in ophthalmology given by the Medical Section of the Continuation Centre of the University of Minnesota. This section is under the general direction of Dr. O'Brien, and provides excellent short courses in various medical subjects at reasonable rates and also provides housing, restaurant and garage facilities for doctors attending the courses. Dr. Cruise reported briefly on various subjects discussed during the course as follows:

(1) Keratoplasty: The indications for this operation are diminishing, the chief indication being a widespread corneal scar with no clear corneal tissue remaining. Banks of corneal tissue are an important feature of this type of surgical procedure, and facilities are being established in Winnipeg to procure corneal tissue from stillborn and other sources. The tissue must be used as early as possible after it is procured. Beta radiation is useful to prevent excessive vascularity after corneal transplant.

(2) A new myotic has been developed which promises to be useful in the treatment of glaucoma. It is di-iso-propyl-chloro-phosphate. Used twice daily it produces a rapid and lasting myosis. Its chief drawback at present is the production of ciliary spasm and pain.

(3) A general pattern in the production of retinal haemorrhage has become apparent. Anoxemia acting possibly through interference with reflex control is thought to produce arterial spasm with increased vascular permeability and subsequent retinal oedema and haemorrhage. A new preparation called rutin may be of use in certain cases, but only where increased capillary fragility can be demonstrated.

(4) The important relationship of the optic nerve to general neurological disease is emphasized. In the treatment of lues with optic nerve involvement the use of malaria alone is recommended. If arsenicals are used, frequent visual fields should be done at intervals of not more than two weeks.

(5) A high incidence of bulbar involvement is reported in the poliomyelitis epidemic of Minnesota. Many of these cases showed only partial involvement and had gone on to recovery with residual ocular palsy.

(6) The successful use of streptomycin in several cases of tuberculous meningitis was reported. At this time treatment of military tuberculosis with streptomycin is not successful.

Brodie's Abscess of the Radius

Dr. W. A. Gardner

Dr. Gardner presented the history of a man 30, who ten years ago had his arm caught in a be Since that time he had almost constant achi pain in his arm, with occasional intervals of co fort. A small, tender, painful swelling w present midway on the radius. Recently th swelling was incised, and a small area of thi ened radial periosteum was opened to disclo a cavity of approximately ½ inch in diamet It was filled with fatty tissue which was curett out and the wound closed without drainage. Co valescence was satisfactory.

Dr. MacPherson showed X-rays of this ca and of two others illustrating three conditio which are similar in their X-ray and clinical fin ings. These are Brodie's abscess, osteoid osteom and fibrous dysplasia of bone. The X-ray pictu in all three of these is that of an area of rarefactio surrounded by a zone of sclerosis.

Dr. Lederman presented tissue sections of th case under discussion and of other cases of th entities mentioned by Dr. MacPherson.

The following characteristics were noted: (1) Brodie's Abscess: This is a true inflammatory pr cess, presumably of haematogenous origin, loca ized in bone as the result of trauma. There is zone of sclerosis surrounding an area of rarefa tion containing chronic inflammatory connectiv tissue. The commonest organism is staphylococcu (2) Osteoid Osteoma: This is a true neoplas formed by the proliferation of osteoblasts. It found in two sites, one in the medullary cavi where it is a spherical shape, the other su periosteal—here it is usually almond shaped or flattened; in this situation the surrounding sclero bone may obscure the central rarefaction. T course is typically prolonged and chronic, but th condition is benign and cure is affected by remov of the neoplasm. (3) Fibrous Dysplasia of Bon This is characterized by a large rarefying lesi of one of the larger bones. It is almost alway single and rarely occurs in small bones. This le is characterized by a central area of rarefactio surrounded by a zone of sclerosis. Microscopical the area of rarefaction is occupied by masses fibrous tissue of varying age which may contai spicules of metaplastic bone. It has been sug gested that trauma is the exciting cause, but th is not certain. Pain and tenderness are charac teristic and are more marked where the lesi occurs in weight-bearing bones. Only one ca has been reported in which malignant chan was noted.

Personal Notes and Social News

Reported by K. Borthwick Leslie

Dr. and Mrs. Donald Brereton announce the birth of Elizabeth Margaret, April 9th, 1947.

♦

Dr. and Mrs. R. B. Ketcheson, Hudson Bay, Sask., announce the arrival of Margaret Dianne, April 10th, 1947.

♦

Dr. and Mrs. Roy Stewart announce the birth of Frances Ruth, April 12th, 1947.

♦

Dr. and Mrs. J. W. Gibson, Toronto, Ont., announce the arrival of James Robert, baby brother for Valerie Ann.

♦

St. Andrew's United Church was the scene for the marriage April 19th, 1947, of Dorothy Margaret Scott to Dr. Darrell Franklin Osborne, youngest son of Mrs. Osborne and the late W. S. Osborne. The young couple will reside in Winnipeg.

♦

The engagement is announced of Miss Selma Abrams to Dr. Myron S. Feinstein. The wedding is to be Thursday, May 29th.

♦

Mr. and Mrs. Hemingson, Manson, Man., announce the engagement of their daughter Betty to Dr. Christopher Moore. The wedding will be in St. Stephen's-Broadway United Church, May 10th.

♦

Mr. and Mrs. A Labovich announce the engagement of their only daughter Miriam to Dr. Joseph Brook, Beausejour, Man. The wedding will take place June 12th.

♦

Mr. and Mrs. Samuel Shinewald announce the engagement of their daughter Myna to Dr. Alex E. Solomon. The wedding to take place June 8th.

♦

Dr. H. W. Verville, of Wellesley, Ont.. has been the guest of his mother, Mrs. J. Verville, 3 Dunkirk Drive.

♦

Dr. and Mrs. T. L. Quong announce the arrival of Helen Marjorie Say-Yen, small sister for Herbie and Su.

Congratulations to Mrs. Bruce Chown on her well deserved appointment as President of the Manitoba Handicraft Guild. Best Wishes for the future for her and her assistants in the excellent work they are so graciously doing, particularly among our veterans.

♦

Dr. K. Borthwick-Leslie, recently retired from the R.C.A.M.C., has re-entered civilian practise with office at 604 Medical Arts. As your "Gossip Editor" she would appreciate any items of news you have.

♦

Overheard in the corridor: "What do you mean that spring feeling? With the condition my wife is in! ! !"

♦

Congratulations to Dr. J. B. R. Cosgrove on his National Research Fellowship. Good luck.

♦

Dr. and Mrs. Brian Best announce the arrival of Shelagh Joan, April 9th, 1947.

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Editorial

J. C. Hossack, M.D., C.M. (Man.), Editor

Hospital Beds

I have several times been asked to comment upon the hospital bed situation. Some of my younger friends, who, for obvious reasons do not wish to go on record, have told me of the difficulties they have encountered in the admission of patients.

There is no question about the real shortage of hospital accommodation but some find that it is aggravated in their case. Thus, one doctor told me of being called to see a patient who was bleeding after an operation done some days before. The friends had not been able to get in contact with the surgeon and so my informant was called. He, also failing to get the surgeon by phone, called the hospital, described the case and asked that the patient be admitted. He said that he did not wish to retain the patient. He said that the bleeding was dangerous. He said that by morning the patient's condition might be desperate. To every statement came the same answer, "Sorry, Doctor, no beds." Later on, the surgeon was found. He told the people to call an ambulance and take the patient to hospital. He had no difficulty. Another young man had the matter settled by his patient. After being told that no bed was available, the patient got in touch with a friend in an admitting office and was admitted. In another instance, the doctor, after trying in vain to get a bed, hit on the idea of calling a consultant who had the case admitted easily.

These instances could be multiplied. They show that two shortages exist, one real and one artificial. The first is accepted as unfortunate. The second is exasperating and is resented. It is natural that hospitals should give preference to their established supporters but it is unfair to carry it to the point where, as one returned man—speaking bitterly—expressed it, "The name of the doctor seems to be more important than the needs of the patient." It is ironical for the Association to do its best to preserve the practices of men in service only to have these men suffer unduly in the matter of hospital admissions. Indeed, it is more than ironical when we remember that it is only because of their service that their names are unknown in admitting offices.

The hospitals have difficulties. They cannot create beds and wards out of thin air. They do not want to refuse admission to those who need it. One would think that it is as embarrassing to admitting clerks as it is humiliating to doctors to have to go through a routine of cross examination every time an admission is sought. There is no doubt that the hospitals are making an effort to keep beds available. There are, however, in every hospital patients who do not need active care and these limit the number of beds that others really need.

But the profession itself is not guiltless in this affair. The Manitoba Hospital Service Association offers a temptation, not always resisted, to spare the patient's purse in the matter of investigation and to prolong for him the comforts of hospital care. In not a few cases investigation proceeds leisurely and the time of convalescence is prolonged beyond what it would be if the patient were meeting his bill himself. The result is that beds urgently needed for the very sick are occupied by patients who would not suffer much by relinquishing them. Here we can help ourselves by doing as much investigation as possible out of hospital, by speeding up investigation within hospital, and by discharging convalescents at the earliest time compatible with safety. Perhaps if we were to do these things beds would easier come by.

Something should be done to make possible the prompt acceptance of emergencies. The doctor and not an admitting clerk should be the one to decide if care is necessary and in the presence of an emergency the name of one doctor should be as influential as that of any other. Too many sick people have had to put up with home care and inadequate treatment because their doctors could not find beds for them. Some of them have been subscribers to the Manitoba Hospital Service Association just to guard against the emergency of an illness. All of them suffered. I understand that after one is faced with a definite emergency and can find no hospital willing to admit the patient he should proceed thus: after being refused by all hospitals he returns to the one he first called, says that it was the one he first called and says also that the emergency is great and if no bed is found the hospital he is then calling must take the responsibility of what may happen.

It is, however, just as important that we do all we can to insure that the beds are occupied only by those whose necessities demand them and for no longer than these necessities exist. Then, perhaps, the difficulties of admission would be lessened for everyone.

J. C. H

Report of Nominating Committee, Manitoba Medical Association

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Dr. R. E. Dicks, Dauphin.
Dr. H. S. Evans, Brandon.
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Member-at-Large (Rural):
Dr. A. S. Little, Dauphin.
Dr. G. H. Hamlin, Portage la Prairie.

Narcotics

Attention is drawn to Section 5, Page 6, of the Opium and Narcotic Drug Act, 1929, which states " . . . any retail druggist who gives, sells or furnishes any drug to any person, except upon a written order or prescription signed and dated by a physician . . . whose signature is known to the said druggist or if unknown duly verified before such order or prescription is filled, or who uses any prescription to sell any drug on more than one occasion, shall be guilty of an offence . . ."

By signing a prescription in full and dating you will protect the druggist from possible pena The suggestion is also made by the R.C.M.P. t instrument bags which might contain narc drugs should not be left in an unlocked car— locked trunk might be safer!

Obituary

Dr. Arthur Bruce Steele

Dr. Arthur Bruce Steele, a former Manito and a veteran of World War I, died suddenly Santa Barbara, California, on February 20. B in Hamiota, Man., in 1897, he was educated Brandon College and Manitoba Medical Colle He went overseas and while in France he veloped tuberculosis. On his return to Canada spent four years at Ninette and while there invented a metal and leather brace to immobil the diseased lung. The device has been recogni by the Trudeau Society and has been widely u in sanatoria.

In 1925 he moved to California, completed arts course and his medical course, the latter 1931. He practised in Santa Barbara since 1 and for the past six years was chief chest c sultant and surgeon for San Luis Obispo cou Recently he was honored with membership in American College of Chest Physicians. In Ap 1946, he was made president of the Trud Society.

He is survived by his mother, Mrs. C. A. Ste of Winnipeg; his widow, a daughter, a son an brother, D. Lyall Steele, of Edmonton, Alta.

Medico-Historical

On Disease and Physicians

My son, prove thy soul in thy life, and see what is evil for it, and give not that unto it. For all things are not profitable for all men, neither hath every soul pleasure in everything. Be not insatiable in any luxury, and be not greedy on the things that thou eatest. For in multitude of meats there shall be disease, and surfeiting shall come nigh unto colic. Because of surfeiting many have perished; but he that taketh heed shall prolong his life.

Honour a physician according to thy need of him with the honours due unto him; for verily the Lord hath created him. For from the Most High cometh healing; and from the king he shall receive a gift. The skill of the physician shall lift up his head; and in the sight of great men he shall be admired. The Lord created medicines out of the earth; and a prudent man will have no disgust at them. Was not water made sweet with wood, that the virtue thereof might be known? And he gave men skill, that they might be glorified his marvellous works. With them doth he hea man, and taketh away his pain. With these t the apothecary make a confection; and his wo shall not be brought to an end; and from him peace upon the face of the earth.

My son, in thy sickness be not negligent; pray unto the Lord, and he shall heal thee. away wrong doing, and order thine hands ari and cleanse thy heart from all manner of Give a sweet savour, and a memorial of fine fl and make fat thine offering, as one that is Then give place to the physician, for verily Lord hath created him; and let him not go f thee, for thou hast need of him. There is a t when in their very hands is the issue for good. they also shall beseech the Lord, that he prosper them in giving relief and in healing the maintenance of life. He that sinneth bef his Maker, let him fall into the hands of physician. Ecclesiasti

Association Page

Manitoba Medical Association Annual Meeting

With the limited time available during the afternoon of Tuesday, June 24th, it will be impossible to tackle all matters of importance to the Profession. By decision of the Executive Committee, items of urgent nature will be considered on June 24th, and an adjourned session in September will afford ample opportunity for discussion of the problems of major concern.

♦

Membership Fees

On April 1st, a reminder concerning unpaid fees was addressed to several members of the profession who may not have received, or who may have overlooked the previous notice. A very gratifying response was the result. Approximately one hundred and twenty-five remittances were received, bringing the total paid membership to 345. Another 205 doctors are still enjoying the benefits of complimentary membership following service in the armed forces. It is hoped that Manitoba may achieve a higher percentage membership than any other province in which the Association fee is collected on a voluntary basis.

♦

Admission to Medical College

Since public announcement was made that the Board of Governors of the University of Manitoba had increased the number of students for admission to the first year of the Faculty of Medicine to ninety, it is reported than an additional form must be completed by students who wish to enter the first year in medicine, indicating that under the conditions the applicant is "willing" to practice in the Province of Manitoba, "as a doctor" for three years "immediately after graduation." Applicants who agree **"voluntarily"** to "follow any branch of medical science anywhere in Manitoba" will then be asked to enter into agreement with the Provincial Government, on the prescribed additional form.

What would you do if you were a student seeking admission to medical college, or a father counselling a son when the general information indicates that "other things being equal" consideration will be given to those who have served with the Armed Forces, or to those who voluntarily sign the "willingness form" and the "agreement form," irrespective of whether the tuition fee is to be paid by the individual himself or on his behalf?

The Medical Profession and the Public

For some time the medical profession has been accused of operating a closed shop policy which has resulted in limitation of students admitted to the Medical College, and a shortage of doctors in the Province, especially in the rural areas. On the other side of the ledger is the statement which appeared in both Winnipeg dailies on March 10th, quoted below:

"The Manitoba Medical Association, whose membership comprises the medical practitioners of the Province of Manitoba, wishes to make known to the public that the enrollment of students in the Faculty of Medicine of the University of Manitoba is not in any way under the control of, nor is it the responsibility of, this Association.

"The number of medical students accepted each year and their qualifications are determined solely by the authorities of the University of Manitoba.

"The Manitoba Medical Association considers it most important that the University continues its high standard of teaching, in order that the Medical School in this Province shall maintain its present excellent grading and graduate well-trained practitioners.

"While having no jurisdiction over the number of students enrolled by the University, the Association believes that any increase in enrollment must be accompanied by increased grants to the University, from the Provincial Government, to supply buildings, apparatus, more teachers and hospital beds with which to maintain the present teaching standards."

On April 18th, 1947, the Editorial page of the Winnipeg Free Press carried a splendid article on "Training New Doctors," outlining how, since 1883, Manitoba practitioners have played a major role in the growth of the Medical College. More articles along such lines would do much to bring about better understanding and more harmonious relations.

♦

Special Select Committee of Legislature

An invitation was received from Hon. Ivan Schultz, Minister of Health and Public Welfare, requesting the Association to make a presentation in connection with the terms of reference of the Committee. The provision of adequate medical personnel, facilities for hospital care, and cancer control were included. On April 1st, three members of the Association, Drs. A. Hollenberg, O. C.

Trainor and T. D. Wheeler, appeared before the Committee, and participated in the discussion. The findings of the Committee have not, as yet, been made public.

♦

Municipal Doctor Contract

Agreement has been reached in the Advisory Commission in the Health Services Act for inclusion of sickness and accident, also pension (annuity) benefits in the Municipal Doctor Contract. A draft copy of the Contract is now being drawn, which will incorporate all the features which have been included. Final approval of the Minister of Health is required before the copies are released to interested parties.

♦

Southern District Medical Society

A meeting of the southern District Medical Society was held at Carman, April 10, 1947. Dr. C. W. Wiebe, of Winkler, presided. Guests were: Doctors H. Funk and M. T. Macfarland, of Winnipeg.

The scientific part of the program began with a very timely and useful paper by Dr. Funk, on "Herniated Intervertebral Disc." Dr. E. K. Cunningham, of Carman, then presented two interesting case histories; one of Primary Osteomyelitis of a Vertebra; the other of Polyposis of Stomach.

Dr. Macfarland, Executive Secretary of M.M.A., brought greetings from the parent b and gave a short talk on some of the problems the Executive.

Officers elected for the current year were:
President: Dr. S. S. Toni, Altona, Man.
Vice-President: Dr. A. P. Warkentin, Winkler.
Secretary-Treasurer: Dr. J. A. McNeill, Gret
Representative to Man. Med. Association: Dr. J Elias, Elm Creek.
Representative to Provincial Nominating Comm tee: Dr. W. Colert, Morden.

The meeting then adjourned to dinner as gu of Dr. Cunningham.

The next meeting will be held at Altona Thursday, September 11th, 1947.

P.S.—Congratulations to the Southern Dis on re-organization!

♦

Medical Films

The District Societies have been advise the Catalogue of Medical and Biological Fi which may be procured through the National F Board. This is well worth the perusal of Program Committee Chairman who may req additional material for a clinical or didac session.

Housing Accommodation at C.M.A. Meeting

To Manitoba Medical Men and Their Wives Outside of Winnipeg

The registration for the 78th Annual Meeting of the Canadian Medical Association in Winnipeg is particularly heavy. Needless to state that hotel accommodation is exceedingly short.

It would greatly facilitate the work of the Committee on Housing and Accommodation if all Manitoba doctors and their wives arranged for private accommodation during the Convention.

We realize we are asking Manitoba doctors to make certain sacrifices with this request; however, as all Manitoba doctors and their wives are joint hosts and hostesses in this great 78th Annual Convention of the C.M.A., your Committee is of the opinion that such sacrifices will be cheerfully borne, as becomes Western hospitality.

D. C. Aikenhead, Chairman,
Committee on Housing and Equipment.

To Manitoba Medical Men and Their Wives in Winnipeg

The Committee on Housing and Accommoda has requested that all Manitoba doctors and t wives make private arrangements for their in Winnipeg during the Convention.

The Committee would appreciate it if W nipeg doctors would offer hospitality in their ho for three days, June 25th, 26th, and 27th. It suggested that such hospitality consist of bed breakfast.

In offering accommodation, please state h many guests you are able to take care of.

Please reply to 602 Medical Arts Building

The Committee will not take advantage private hospitality if hotel accommodation the Fort Garry Site can house our guests.

D. C. Aikenhead, Chairman,
Committee on Housing and Equipm

Department of Health and Public Welfare

Comparisons Communicable Diseases — Manitoba (Whites and Indians)

DISEASES	1947 Feb. 23 to Mar. 22,'47	1947 Jan. 26 to Feb. 22,'47	1946 Feb. 24 to Mar. 23,'46	1946 Jan. 27 to Feb. 23,'46	TOTALS Dec. 29,'46 to Mar. 22,'47	TOTALS Dec. 30, 45 to Mar. 23,'46
Anterior Poliomyelitis	...	...	...	1	...	1
Chickenpox	82	77	87	136	289	391
Diphtheria	9	10	15	17	31	51
Diphtheria Carriers	1	2	3	3	6	7
Dysentery—Amoebic	...	...	...	...	...	1
Dysentery—Bacillary	...	1	...	...	1	1
Erysipelas	3	6	4	16	14	27
Encephalitis	1	...	...	...	1	...
Influenza	3	12	55	43	19	121
Measles	1628	1030	25	13	3279	77
Measles—German	6	4	1	1	10	3
Meningococcal Meningitis	1	3	4	...	5	6
Mumps	310	199	367	150	661	639
Ophthalmia Neonatorum	...	...	...	...	...	...
Pneumonia—Lobar	8	28	13	22	49	53
Puerperal Fever	1	...	...	...	1	...
Scarlet Fever	12	25	81	52	62	193
Septic Sore Throat	3	2	8	4	6	16
Smallpox	...	...	...	...	...	...
Tetanus	...	...	...	...	...	...
Trachoma	...	...	...	...	...	...
Tuberculosis	82	36	62	46	134	145
Typhoid Fever	...	...	2	2	...	4
Typhoid Paratyphoid	1	3	...	...	4	...
Typhoid Carriers	...	1	...	...	1	...
Undulant Fever	...	1	3	...	1	6
Whooping Cough	89	81	25	18	222	75
Gonorrhoea	163	151	205	184	495	577
Syphilis	35	64	53	58	130	169
Diarrhoea and Enteritis, under 1 yr.	6	12	15	12	23	37

Four-Week Period Report, February 23 to March 22, 1947

DISEASES (White Cases Only) *Approximate population.	*718,699 Manitoba	*3,825,000 Ontario	*506,000 Saskatchewan	*2,972,000 Minnesota
Anterior Poliomyelitis	...	1	1	3
Chickenpox	82	1437	84	...
Diarrhoea & Enteritis (under 1 yr.)	6	...	...	...
Diphtheria	9	11	2	30
Diphtheria Carriers	1	...	...	...
Dysentery—Amoebic	...	12	...	2
Erysipelas	3	7	...	...
Influenza	3	89	...	...
Jaundice, Infectious	...	34	1	...
Leth. Enceph.	1	1	...	...
Measles	1628	570	389	207
Measles, German	6	276	15	...
Meningococcal Meningitis	1	2	...	13
Mumps	310	2871	644	...
Pneumonia, Lobar	8	...	...	...
Puerperal Fever	1	...	...	...
Scarlet Fever	12	344	7	275
Septic Sore Throat	3	2	...	...
Tuberculosis	82	94	33	13
Typhoid Fever	...	3	2	2
Typhoid Carriers	...	...	1	...
Typh. Para-Typhoid	1	...	...	...
Undulant Fever	...	6	...	9
Whooping Cough	89	335	5	46
Gonorrhoea	163	263	...	...
Syphilis	35	345	...	...

♦

DEATHS FROM COMMUNICABLE DISEASES

For 3-Week Period March 4th to March 25th, 1947

Urban—Cancer, 47; Diarrhoea and Enteritis (under 2 years), 3; Influenza, 1; Lethargic Encephalitis, 1; Measles, 1; Pneumonia, Lobar, 1; Pneumonia (other forms), 8; Syphilis, 2; Tuberculosis, 5; Whooping Cough, 1; Tetanus, 1; Hodgkin's Disease, 1; Disease of Pharynx and Tonsils, 2; Disease of Skin, 1. Other deaths under 1 year, 26. Other deaths over 1 year, 152. Stillbirths, 13. Total, 191.

Rural—Cancer, 16; Diarrhoea and Enteritis, 2; Dysentery, 1; Influenza, 4; Pneumonia, Lobar, 1; Pneumonia (other forms), 9; Tuberculosis, 9; Septic Sore Throat, 1. Other deaths under 1 year, 16. Other deaths over 1 year, 128. Stillbirths, 13. Total, 157.

Indians—Cancer, 1; Pneumonia (other forms), 7; Tuberculosis, 5. Other deaths under 1 year, 8. Other deaths over 1 year, 6. Stillbirths, 1. Total, 15.

♦

DEATHS FROM COMMUNICABLE DISEASES

For 3-Week Period February 4th to February 25th, 1947

Urban—Cancer, 46; Diarrhoea and Enteritis, 3; Influenza, 2; Measles, 2; Pneumonia, Lobar, 2; Pneumonia (other forms), 7; Syphilis, 2; Tuberculosis, 7; Hydatid Disease, 1; Mycosis, 1; Hodgkin's Disease, 1; Mumps, 1. Other deaths under 1 year, 19. Other deaths over 1 year, 177. Stillbirths, 6. Total, 202.

Rural—Cancer, 16; Diarrhoea and Enteritis, 2; Pneumonia, Lobar, 2; Pneumonia (other forms), 17; Tuberculosis, 8; Septicaemia, 1. Other deaths under 1 year, 9. Other deaths over 1 year, 115. Stillbirths, 12. Total, 136.

Indians—Pneumonia (other forms), 3; Whooping Cough, 1. Other deaths under 1 year, 2. Other deaths over 1 year, 1. Stillbirths, nil. Total, 3.

♦

Measles are still epidemic but should be showing some decrease in incidence very shortly. Otherwise there is little need of comment.

In treating war veterans and Polish veterans from Italy it should be remembered that there is always the possibility that they may be infested with parasites. When the diagnosis is in doubt or difficult to make the following diseases should be borne in mind — malaria, amoebic dysentery, ascariasis, trichuris and hookworm. Dr. T. H. Williams, Director of Laboratories, at Deer Lodge Hospital, has found quite a number of veterans infested with the parasites of these diseases.

Manitoba Medical Service

As from February 1st, all bills are being paid on the official fee scale of the Manitoba Medical Association. I have records of the fee scales of most of the medical plans on this continent, and none of them is as high as ours, nor does any of them pay a specialist's fee. There are still many discrepancies, which may be ironed out in time, but it is just as well that the profession should see how this one works. You may be surprised to find that in many cases bills are assessed at a higher amount than you rendered; there is a reason for that; many doctors render bills to Manitoba Medical Service on the basis of what they would ordinarily charge those patients; others go all out; if you want examples of what I mean you can look in some day at this office; the result is that the man who is playing the game is at an economic disadvantage; I have tried for two and a half years to get the bills of the "all outers" reduced, and have failed; and I have got rather tired of the criticism and sometimes abuse which I have received; I am happier now, for I shall have got rid of all that; the result, of course, is that the overall percentage paid out will be lower, but the division will be fairer.

There still remains the problem of the groups or clinics; they give a very complete service, but a service which in the past was only enjoyed by the wealthy or by the very poor in the O.P.D. The financial aspect was no obstacle in the O.P.D. and though many of those patients are now in Manitoba Medical Service, it is still not an obstacle. A U.S.A. senate committee, investigating health services, stated that the individual practitioner was at an economic disadvantage when groups or clinics were remunerated on a fee for service basis. I do not know the answer to the status of clinics in a plan such as this, and it is merely being put on record; it is none of my business.

Utilization of X-rays has increased very much during the last year; there again I have failed to control it. A board committee implied that I did not appreciate how much X-ray was being used in medical circles. Don't I? Anway every X-ray taken after February 1st has been passed without question, and I shall continue to follow that policy until I am given different instructions.

I would like to refer again to our relations with the public. About 300 subscribers have been reverted to the "A" plan. If, as we are told, the doctors are losing money on this plan, they ought to benefit since their bills for house and office calls and medical cases will now be paid in full.

When a subscriber is notified that he is to be reverted he comes to the office promptly; he is shown his case card which records the illness, the doctor attending, etc. Some of the reactions are interesting. "I don't blame you a bit for putting me on A." "The doctors are out to make a killing." "He has been my doctor for years, and the biggest annual amount I paid him was half that charged to Manitoba Medical Service." "I didn't seem to be getting any better, but the doctor made an appointment each time." Several patients for whose account we have refused liability have turned up in the office later with a receipted bill for an amount much less than had been charged to Manitoba Medical Service.

You may find the figures for February of interest. There were 36,000 members. There were passed for payment 6,000 claims at a cost of $62,-607.75; in addition to this there were, 700 claims received, costing approximately $6,000.00; most of these were held over for investigation; many had no group and contract numbers, no doctor's name and number, etc. 323 claims amounting to $4,-716.50 were returned, as the Manitoba Medical Service did not accept liability for them.

To meet these obligations there was an income of $39,000 from which has to be deducted administration costs. This will probably explain the reason for a percentage payment to doctors. In most health plans utilization of services and cost per capita have diminished after the first year, but such has not been the experience of Manitoba Medical Service.

E. S. Moorhead, M.B.

College of Physicians and Surgeons of Manitoba

Annual Meeting Report

(Continued from March issue)

(d) Communication From Maclean's Magazine.

A communication was received from Maclean's Magazine stating that they are considering an article on the regulations governing the practice of the major professions in the various provinces of Canada. Apparently they had written each province asking for an outline of the regulations and requirements pertaining to medical licensure. Dr. Campbell asked for the Council's permission to give this information for the purpose of publication, so that the facts would be given from a reliable source, and not obtained in such a way that errors would be likely to appear in the article.

Motion:

Moved and Seconded: "THAT the Registrar and the President prepare a letter to Maclean's Magazine." Carried.

(e) Communication From the Department of National Defence.

A communication was received from Brigadier C. S. Thomson, Director General of Medical Services, Department of National Defence, Ottawa, stating that the R.C.A.M.C. Active Army will contain 125 Medical Officers. These Officers are to be distributed among the Military Districts of Canada and will be posted from one District to another for periods of two to four years. These Officers all are required to be Licentiates of the Medical Council of Canada. As well as providing medical care to troops, they will also provide out-patient care to dependent families. It was requested that some arrangements be made by the College of Physicians and Surgeons of Manitoba, whereby courtesy registration could be arranged for the time they are posted in Manitoba.

Motion:

Moved and Seconded: "THAT we, if possible, carry on under the War Measures Act, to allow these Officers to practice in Manitoba, and that at the next Registrar's meeting, ascertain the wishes of the whole Dominion, and legislation be prepared by this Province accordingly." Carried.

(f) Communication From the Department of National Health and Welfare— Narcotic Division.

A communication was received from Mr. K. C. Hossick, Acting Chief, Narcotic Division, Department of National Health and Welfare, stating that a request had been received by a legal firm acting for the Manitoba Osteopathic Association, asking that Osteopaths be allowed to issue Narcotic prescriptions, now that they had been incorporated by an act of Parliament. Mr. Hossick enquired whether Osteopaths were entitled to register with the College of Physicians and Surgeons of Manitoba now that they had been incorporated. Dr. Campbell informed the Council that he had replied to Mr. Hossick stating that Osteopaths were not eligible for registration with the College of Physicians and Surgeons of Manitoba, and that in his opinion they should not be entitled to the use of Narcotic drugs as they profess to practice the healing art without employment of any form of drug healing. He stated in his letter to Mr. Hossick that he would bring this whole matter before the Council.

Motion:

Moved and Seconded: "THAT this Council agrees with the statements made by Dr. W. G. Campbell, in a letter written to the Narcotic Division of the Department of National Health and Welfare, in which he states that Osteopaths have no connection whatever with the College of Physicians and Surgeons of Manitoba." Carried.

(g) Communication From the Canadian Red Cross Society.

A communication was received from Dr. W. S. Stanbury, Assistant National Commissioner, stating that the Canadian Red Cross Society was proposing to undertake a nationwide Blood Transfusion Service. Each province will have blood transfusion depots and laboratories all staffed by qualified medical, nursing and technical personnel. All doctors employed will be qualified under the Medical Council of Canada, but may not be registered in the province when they are temporarily stationed. In view of the fact that none of these doctors will be engaged in private practice, the Red Cross is requesting that the registration fee be waived or alternatively made purely nominal.

Dr. J. M. Lederman informed the Council that Dr. Stanbury will be visiting Winnipeg in the very near future.

Motion:

Moved and Seconded: "THAT the matter of registration of the doctors employed by the Blood Transfusion Service of the Canadian Red Cross Society be taken up with Dr. W. S. Stanbury, in conjunction with the Registration committee." Carried.

8. Enquiries. None.

9. Notices of Motion. None.

10. Motions of Which Notice Has Been Given at Previous Meetings. None.

11. Unfinished Business From Previous Meetings. Business Arising From Registrar's Report at Last Annual Meeting

(a) Registration Required for Doctors Employed in Government Institutions and Hospital Internes.

Motion:

Moved and Seconded: "THAT the Registration Committee go into these matters and report to the May meeting." Carried.

12. Miscellaneous and New Business.

(a) Re Change of Treasurer's Guarantee Policy.

Dr. W. G. Campbell reported that it would be necessary to change the name of the Treasurer on the Guarantee policy to Dr. T. H. Williams.

Motion:

Moved and Seconded: "THAT the name of the Treasurer's Guarantee Policy be changed to Dr. T. H. Williams." Carried.

(b) Re Purchase of New American Medical Directory and Extra Filing Cabinets.

Dr. W. G. Campbell explained that our present American Medical Directory is dated 1942, and as it is in daily use, should be a recent issue.

Motion:

Moved and Seconded: "THAT permission be given for the purchase of the new American Medical Directory when published." Carried.

Dr. W. G. Campbell also explained that we were greatly in need of extra filing space.

Motion:

Moved and Seconded: "THAT the necessary filing cabinets be purchased when they are available." Carried.

(c) Re Payment of Janitor.

Motion:

Moved and Seconded: "THAT the janitor be paid Five Dollars ($5.00)." Carried.

The meeting then adjourned.

Friedman Test Discontinued

The Friedman Test Committee of the University of Manitoba decided last month that in view of the inability to obtain an adequate supply of animals, and the exhaustion of its funds, it must cease to carry out this test for the Profession, as from April 30th. Notice of this decision was sent by letter to all those doctors who have had tests done during the last fifteen months, and the present notice will acquaint all others of the Profession who may have occasion to wish for the test.

♦

Camera Salon to Hold Third Annual Showing

The Third Annual Showing of the Canadian Physicians' Fine Art and Camera Salon will be held in the Hudson's Bay Auditorium in Winnipeg during the week of the 23rd to 27th of June, in conjunction with the Convention of the Canadian Medical Association. The Salon will play an important part in the Convention and many doctors are expected to submit entries.

The Canadian Medical Association Salon Committee—a committee of Canadian doctors—is composed of Dr. G. E. Tremble, Dr. J. L. Notkin and Dr. A. Jutras, of Montreal; and Dr. Harvey Agnew, of Toronto. Dr. Tremble has been elected Chairman of the Committee.

The judges of the Salon this year will be Mr. Alex Musgrove, D.A., Curator of the Winnipeg Art Gallery Association; Professor W. Leach and Mr. Newton Brett, of Winnipeg.

Since its inception, the Salon has been met with increasing enthusiasm as there are a surprising number of doctors who have adopted painting and photography for hobbies as a welcome relief from the constant strain and overwork of the past few years.

At the request of Canadian doctors, the Salon this year will be divided into three sections: the Fine Arts and monochrome photography of last year will be retained while an additional section for Kodachrome transparencies has been added. The Fine Arts section includes: paintings in oil, water colors and tempera, charcoal drawings, pastels and etchings.

Two bronze plaques, sculptured by Miss Eugenia Berlin, S.S.C., will be presented, one to the winner in the Fine Arts section, and one to the winner in the Photographic section.

Awards of merit will also be presented.

The prizes and awards will be made at a meeting of the Medical Council on Thursday, June 26.

The Salon is sponsored by Frank W. Horner Limited, of Montreal.

♦

The American Society for the Study of Sterility

The third annual convention of the American Society for the Study of Sterility will be held at the Hotel Strand, Atlantic City, New Jersey, on June 7 and 8, 1947, preceding the annual A.M.A. Convention. The general theme of the meetings will be that of attempting to disseminate to the physician treating marital infertility an overall picture of the latest advances in reproduction. The convention will include original papers, round table discussions, scientific exhibits, and personal demonstrations. Registration for the sessions is open to members of the medical and allied professions.

Additional information may be obtained from the secretary, Dr. John O. Haman, 490 Post St., San Francisco 2, Cal.